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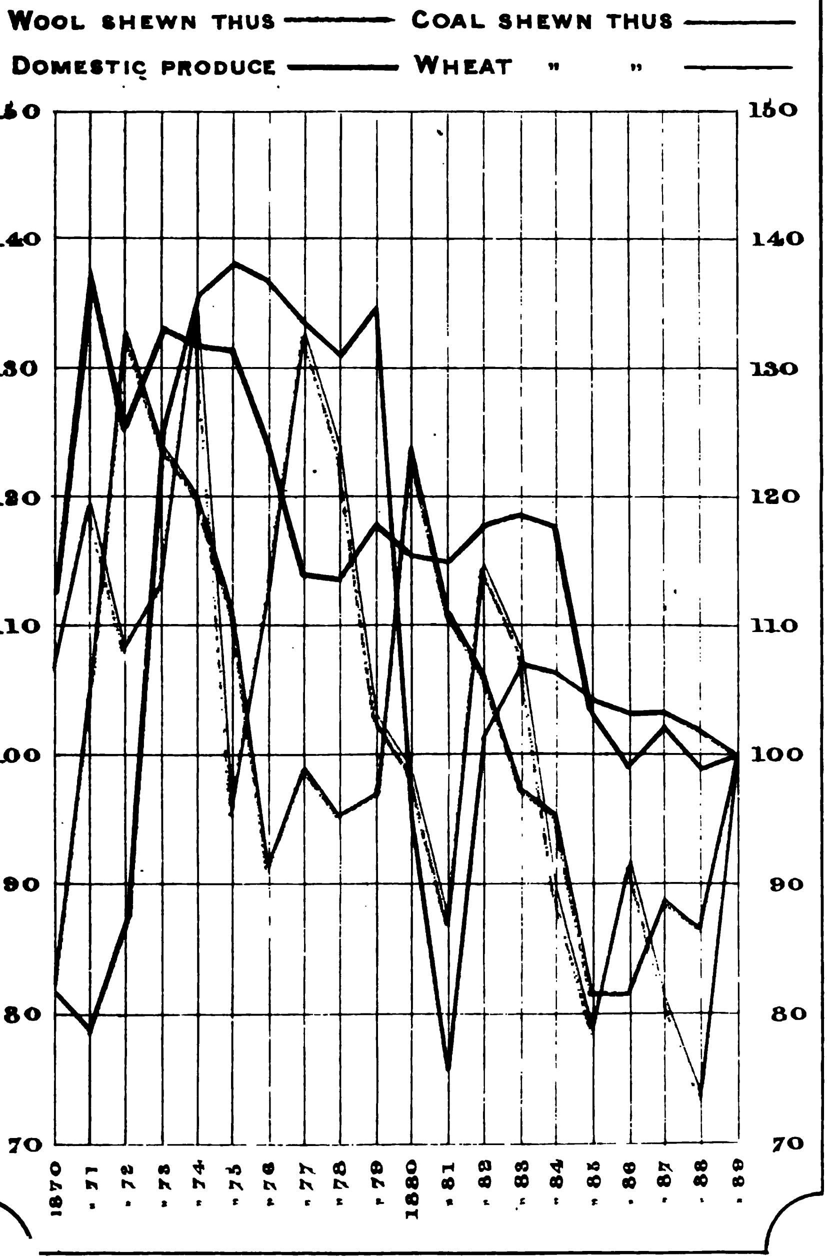
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THE

WEALTH AND PROGRESS

OF

NEW SOUTH WALES

1889-90.

BY

T. A. COGHLAN, A.M., INST. C.E.,
GOVERNMENT STATISTICIAN.

FOURTH ISSUE.

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PREFACE TO THE FOURTH ISSUE.

THE matter contained in former issues of this work has been enlarged, so that the present volume deals with nearly every subject concerning which statistics are now to be obtained. It would have been well if fuller information could have been given concerning the cost of production in various industries, the displacement of labour by machinery, the employment of women and children, and other kindred topics; but the necessary materials were not available. It is hoped, however, that in the next edition, which will be published after a general census of the Colony has been taken, interesting information on all these subjects will be presented.

It has been thought desirable to limit, except in special cases, the period covered by the tables to ten years. Should more detailed figures be required than are given in the text, these will be found in the "Statistical Register." The necessity of comparing the progress of New South Wales with that of the other Colonies, except on the most important points, is obviated by the publication of "The Seven Colonies of Australasia," which deals with the Colonies as a whole, as well as with their individual resources.

In preparing a work of this kind, a difficulty is always experienced in making the information it contains interesting to persons outside the Colony who are not concerned about the details of local affairs, and at the same time to those living in the Colony who require such details. It is believed, that in the present instance, the difficulty has been fairly met. Every care has been taken to correct such errors as may have passed through previous editions, and to keep this issue free from them. If, however, any such should be discovered, it would be deemed a favour if their nature and position were pointed out.

Sydney, 13th October, 1890.

CONTENTS.

Page

Historical Sketch 1

Limits and Area 34

Physical Configuration 36

Climate 56

Geological Formation 61

Mines and Minerals... 67

ERRATA.

Page 105.—*For* Total Value of Coal, 1889, *read* "£1,319,271."

" 553.—Five lines from bottom *read* "Page 559."

" 706.—*For* Total Income of New South Wales *read* "63 millions."

Internal Communication ... ...

Law and Crime 590

Constitution 633

Finance and Public Wealth 656

Instruction, Science, and Religion 740

Defence 783

Local Government 794

Social Condition and Charities 820

General Index 837

Diagram showing Price Levels ... ... *facing title page*

Map of Australasia... ... ... *facing page* 48

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PART I.

Historical Sketch.

Expedition of De Quiros.

THE Columbus of Australia was undoubtedly Don Pedro Fernandez de Quiros, a Spanish nobleman and navigator, who sailed in 1606 from Lima, in Peru, for the express purpose of discovering a southern continent, in the existence of which he had repeatedly expressed his confident belief. Like Columbus, he failed to sight the main land, but having succeeded in reaching a coast that stretched for a great distance north and south, he mistook it for the continent in search of which he had come, and named the land Australia del Espiritu Santo. This was one of the islands of the New Hebrides group, still known as Espiritu Santo. Sickness and discontent led to a mutiny on De Quiros' vessel, the sailors insisting so vehemently on returning to Peru, that the Admiral was forced to abandon the further prosecution of his discoveries. In company with De Quiros was Luiz Vaez de Torres, in command of another ship, named the Almirante, who after parting company with De Quiros, discovered that Espiritu Santo was only an island. Torres, being afterwards forced to bear up for the Philippines for the purpose of refitting, discovered and sailed through the strait which now bears his name, and even sighted Cape York, which he supposed to be only another of the many small islands abounding in the neighbourhood.

Earliest charts.

Prior to the expedition from Lima, it is possible this continent was visited by navigators, the records of whose voyages have not been transmitted to us. The chart of Marco Polo would favour the supposition that the existence of a great south land was known to the Chinese; and, though the claims of De Gonneville to have discovered Australia as early as 1504 are not tenable, charts bearing the date of 1542 exist whereon is marked an extensive territory to which the name of Great Java was given, and which might have been intended to represent the north-west coast of Australia. But however valid these claims may be the merit of the Spaniard is no wise lessened. It is certain that previous navigators endeavoured to conceal their discoveries, and no really authentic records remain to show how far those discoveries extended.

Dutch explorers.

About the time of de Quiros' voyage the Dutch sent out an expedition from Bantam in a small vessel called the Duyfhen, which discovered the Gulf of Carpentaria. Some of the crew landed, and are believed to have been the first Europeans who trod the shore of Australia. Being attacked by the natives they were forced to abandon any attempt to explore the country; and after naming the place Cape Keerweer, or Turn-again, they departed, apparently in total ignorance of the fact that they had landed on the northern shore of a great continent. Other Dutch adventurers discovered, during the following twenty years, various parts of the coast. Dirk Hartog, in 1616, landed on the island now bearing his name. Jan Carstens, in command of the yachts Pera and Arnhem, in 1623 sailed along the northern shores, for a long time called Arnhem's land. About the same time another Dutchman, Captain Edel, explored the greater part of the western coast. In 1622 a Dutch vessel, the Leeuwin, coasted along the south-west shore, from the cape which has been named after her, to King George's Sound; and in 1627 Peter Nuyts discovered the Great Australian Bight. Other Dutch explorers were Pelsart, who was shipwrecked on Houtman's Abrolhos in 1629, and Tasman, the discoverer of Tasmania and New Zealand.

Dampier's expedition.

Dampier, an English buccaneer and discoverer, also explored the west coast, from Shark Bay to Dampier's Archipelago, and the north-west coast, as far as Roebuck Bay, a distance of about nine hundred miles. This was in 1699, and he appears to have landed in several places. On his return he published an account of what he had seen. He described the country as sterile in the extreme, and almost devoid of animals, the only one of any importance somewhat resembling a racoon, a strange creature, which used only its hind legs, and, instead of walking, advanced by great bounds, or leaps, of twelve or fifteen feet at a time. This is the first notice of the kangaroo which has reached us. Dampier also describes the aboriginal inhabitants of the north-west coast in terms the reverse of favourable, which, however, apply equally to the natives of New South Wales as first seen by Captain Cook. The mention of this last distinguished man brings the narrative to the period when the real history of New South Wales, and therewith that of Australia, begins.

Voyage of Captain Cook.

The great voyage of James Cook, in 1769-70, was primarily undertaken for the purpose of observing the transit of Venus, but his instructions also mention among its objects the making of further geographical discoveries. The ship in which Cook sailed was a small vessel of 320 tons, carrying twenty-two guns. Originally built for service as a collier, she was selected for the use of the expedition on account of her unusually strong construction. This craft had been chosen by Cook himself, and was renamed the Endeavour, in allusion to the great work which her commander was setting out to achieve. Mr. Green was to conduct the astronomical observations, and Sir Joseph Banks and Dr. Solander were appointed botanists to the expedition. After successfully observing the Transit from the island of Tahiti, or Otaheite, as Cook wrote it, the Endeavour's head was turned south, and then northwest, beating about the Pacific in search of the eastern coast of the great continent, whose western shores had been so long known to the Dutch. After circumnavigating, and minutely surveying New Zealand, Cook stood due west, and in three weeks sighted the cliffs of New Holland, as Australia was then called.

The Endeavour.

Cook anchors in Botany Bay.

The first important point observed was Cape Howe, which was so named by Cook. After passing and naming Mount Dromedary, the Pigeon House, Point Upright, and Cape St. George, on the 28th April, 1770, Botany Bay was discovered, which, as it apppeared to offer a suitable anchorage, the Endeavour entered, and dropped anchor. The ship brought-to opposite a group of natives, who were cooking over a fire. Cook and his crew, unacquainted with the character of the Australian aborigines, were not a little astonished that these natives took no notice of them or their proceedings

Even the splash of the anchor in the water and the noise of the cable running out through the hawse-hole in no way disturbed them at their occupation, or caused them to evince the slightest curiosity. But as the captain of the Endeavour ordered out the pinnace and prepared to land, the natives threw off their nonchalance; for on the boat approaching the shore two men, each armed with a bundle of spears, presented themselves on a projecting rock and made threatening signs to the strangers. It is interesting to note that the ingenious "wommera," or throwing stick, which is peculiar to Australia, was first observed on this occasion. As these men were evidently determined to oppose any attempt at landing, a musket was discharged between them, in the hope that they would be frightened by the noise, but it produced no effect beyond causing one of them to drop his bundle of spears, of which, however, he immediately re-possessed himself, and the two natives still preserved the same menacing attitude. One of them at last cast a stone towards the boat, which earned him a charge of small shot in the leg. Nothing daunted, the two men ran back into the bush, and presently returned furnished with shields made of bark, with which to protect themselves from the firearms of the crew. The intrepidity of these men is certainly worthy of passing notice. Unlike the American Indians, who supposed Columbus and his crew to be supernatural beings, and their ships in some way endowed with life, and who were thrown into convulsions of terror by the first discharge of firearms which they witnessed, these Australians were neither excited to wonder by the ship nor overawed by the superior number and unknown weapons of the strangers. Cook examined the bay in the pinnace, and landed several times; but by no endeavour could he induce the natives to hold any friendly communication with him. The well-known circumstance of the great variety of new plants here obtained, from which Botany Bay derives its name, should not be passed over. Before quitting the bay the ceremony was performed of hoisting the Union Jack, first on the south shore and then near the north head, thus taking formal possession of the territory for the British Crown.

Encounter with the Aborigines.

Port Jackson seen and named.

After leaving Botany Bay Cook sailed northward. He saw and named Port Jackson, but, for some unexplained reason, forebore to enter the finest natural harbour in Australia. Broken Bay was also seen, but the vessel did not come to an anchor till Moreton Bay was reached. Still sailing northward, and taking notes, as he proceeded, for a rough chart of the coast, Cook passed over 1,300 miles without the occurrence of any event worthy of being chronicled, till suddenly one night at 11 o'clock the water was found to shoal, without any sign of breakers or land. While Cook was speculating on the cause of this phenomenon, and was in the act of ordering out the boats to take soundings, the Endeavour struck heavily, and fell over so much that the guns, spare cables, and other heavy gear had to be at once thrown overboard to lighten the ship. As day broke, attempts were made to float the vessel off with the morning tide; but these were unsuccessful. The water was rising so rapidly in the hold that with four pumps constantly going the crew could hardly keep it in check. At length one of the midshipmen suggested the device of "fothering," which he had seen practised in the West Indies. This consists in passing a sail, attached to cords, under the vessel's keel, in such a manner that the suction of the leak may draw the canvas into the aperture, and thus partially stop the vent. This was performed with great success, and the vessel was floated off with the evening tide. The land was soon after made, near the mouth of a small river, which Cook called after the ship, the "Endeavour River." A headland close by he named Cape Tribulation. The ship was steered into the river, and there careened and thoroughly repaired. Cook afterwards completed the survey of the east coast, to which he gave the name of New South Wales, and returned by way of Torres Straits and the Indian Ocean.

The Endeavour in danger.

Return of the Endeavour.

The favourable reports brought to England by the Endeavour on her return, and the graphic account of his voyage published by Cook, together with the fact that Great Britain had just lost her North American Colonies, by their successful rebellion, turned all eyes to Australia, or New Holland, as it continued to be called. The difficulty of disposing of their criminal population was only one of the causes which determined the Government of the day to found the colony of New South Wales; for it will become evident, as the narrative proceeds, that all concerned felt they were engaged in founding a new home in the Southern Hemisphere for the British people, and that visions of even greater progress than has yet been attained filled the minds, not only of Viscount Sydney and Governor Phillip, but also of many reflecting persons in the Colony itself. The truth of this view is amply demonstrated by the testimony of several contemporary writers; but it is nowhere more strongly emphasized than in the lines entitled "The Visit of Hope to Sydney Cove," the author of which was Darwin, whose "Botanic Garden" is well known. The lines have been often quoted; but they contain so distinct a prophecy of the greatness to which the Colony has attained that they may be appropriately introduced:

Darwin's prophetic lines.

Where Sydney Cove her lucid bosom swells,
Courts her young navies and the storm repels;
High on a rock amid the troubled air
Hope stood sublime and waved her golden hair,
Calmed with her rosy smile the tossing deep,
And with sweet accents charmed the winds to sleep;
To each wild plain she stretched her snowy hand,
High waving wood and sea-encircled strand.
'Hear me,' she cried, 'ye rising realms! Record
'Time's opening scene and Truth's unerring word.
'*There* shall broad streets their stately walls extend,
'The circus widen and the crescent bend;
'*There*, ray'd from cities o'er the cultured land,
'Shall bright canals, and solid roads expand,
'*There* the proud arch, Colossus-like, bestride
'Yon glittering stream, and bound the chafing tide;
'Embellished villas crown the landscape scene,
'Farms wave with gold and orchards blush between.
'*There* shall tall spires, and dome-capped towers ascend,
'And piers and quays their massy structure blend;
'While with each breeze approaching vessels glide,
'And northern treasures dance on every tide.'
Then ceased the nymph—tumultuous echoes roar—
And joy's loud voice was heard from shore to shore—
Her graceful steps descending pressed the plain,
And Peace and Art and Labour joined her train.

Such words as these could not have been inspired by the prospect of the "big gaol growing still bigger," which some foreign writers assert was all the Colony was ever expected to become. On the contrary they mark the prescience of those who, one hundred years ago, saw clearly what a great enterprise was being then initiated.

Viscount Sydney determines to found the Colony.

It was in the early part of 1787 that Viscount Sydney, Secretary of State for the Colonies, determined to plant a colony in New South Wales, and by May of that year the "First Fleet" had been assembled. It consisted of the 20-gun frigate Sirius; the armed tender Supply; three store ships—the Golden Grove, Fishburn, and Borrowdale; and six transports—the Alexander, Scarborough, Lady Penrhyn, Prince of Wales, Friendship, and Charlotte. The largest of these vessels measured only 450 tons, and the smallest was no more than 270 tons. On board of the six transports were packed no fewer than 564 men and 192 women, all prisoners who had been sentenced to expatriation. There were also carried 168 marines and 10 officers, commissioned and non-commissioned. These, with 5 medical men, a few mechanics, and 40 women, wives of marines, together with 13 children, the offspring of the convicts, made up the total number of persons despatched to found the Colony. Captain Phillip, R.N., was placed in command of the expedition, and also bore a commission as Governor and Captain-General of New South Wales. Second in command was Captain John Hunter, of the Sirius, and Mr. David Collins accompanied the expedition as Judge Advocate.

Sailing and arrival of the "First Fleet."

The fleet sailed at the end of May, 1787, and after calling at Rio Janeiro, arrived in Botany Bay in the beginning of January, 1788. A cursory examination convinced Captain Phillip that a more unsuitable site for a new settlement could hardly have been chosen than the shores of this bay. Despite the profusion of new plants which had so delighted Banks and Solander, the neighbourhood of Botany Bay is by no means fertile. The scarcity of good water was a further disadvantage, while the bay itself was so shallow as to forbid the ships approaching the shore, which would have necessitated the erection of piers and jetties of great length. It was besides exposed to the full swell of the Pacific, being destitute of bays, creeks, or coves of any kind. The Governor accordingly determined to explore the coast in search of a more suitable site for the settlement. After proceeding with three of the boats about nine miles, he found himself abreast of the entrance of Port Jackson, which Cook had supposed to be a mere shallow indentation of the land, fit for nothing but a landing-place for boats. Undeterred by this opinion, Phillip rounded the South Head and soon saw opening before him the whole expanse of one of the finest harbours in the world. For miles to the west stretched the peaceful waters of Port Jackson, which must have delighted the minds of the explorers, disheartened as they had been by the appearance and surroundings of Botany Bay. In place of the stunted scrub which formed the greater part of the vegetation of that locality, Port Jackson was found to be surrounded by a thick forest of noble trees, which extended to the water's edge, and promised an abundant supply of timber for building. In place of the open roadstead at Botany a countless succession of bays and inlets opened on the astonished gaze of the hardy navigators as they proceeded up the harbour. Deep water was found to extend to the very base of the rocks, thus obviating any necessity for expensive wharves, the construction of which must have occupied the little community for many months, to the neglect of more immediately pressing wants.

Discovery of Port Jackson.

Sydney Cove selected for settlement.

The Governor's choice of the site of the present metropolis of Australasia was determined by the fact that an apparently perennial stream of the purest water was found discharging itself into a beautiful sandy cove, about six miles from the entrance, which was named Sydney Cove, in honour of the statesman under whose auspices the enterprise had been undertaken. Before finally deciding on this site, Captain Phillip spent three days in exploring the various bays, but was confirmed in his original choice by the fact that no such stream of water had been found elsewhere, though in other respects numerous positions equally eligible presented themselves.

La Pérouse's Expedition.

Returning immediately to Botany, preparations were made for bringing the colony round to Sydney Cove, when as the fleet were standing out of the bay an interesting incident occurred. Two strange vessels evidently making for the entrance were discerned in the offing. Captain Phillip went out in the Supply to meet the strangers, who proved to be a French exploring party under the command of Jean François Galaup, Comte de la Pérouse, their vessels being the frigates Astrolabe and Boussole. After an interchange of courtesies, the French were left to refresh and refit in Botany Bay. They stayed there till March, 1788, and buried one of their company on shore—Father le Receveur, of the Order of St. Francis, the naturalist of the expedition, who died of wounds received in an encounter with the natives of the South Seas. His tomb is still extant at La Pérouse, near the north head of Botany Bay, where also a monument was placed, in the year 1825, to the memory of the commander of the expedition, who was shipwrecked and whose crew were murdered on the Santa Cruz Islands. The monument was erected by Messrs. De Bougainville and Ducampier, commanding the French war vessels, Thétis and Espérance, then lying in Port Jackson.

Foundation of the Colony.

On Captain Phillip's arrival in Sydney Harbour, on the memorable 26th January, 1788, the ships anchored in the Cove, and preparations were at once made for landing the colonists. The clearing of the ground in the vicinity, and along the banks of the little stream, was commenced, and when a sufficient space had thus been obtained a flagstaff was erected, and the Union Jack run up. After the firing of three volleys by the marines, the Governor read his commission, and addressed words of counsel, warning, and encouragement to the prisoners, the ceremony closing with general festivity. Arduous labour succeeded this scene, for it was well understood that unless the settlers could raise supplies for themselves, the existence of the Colony would be precarious, as the store of provisions in their possession was calculated to last only a very short time.

Farming first attempted.

Accordingly ground was cleared at the head of Farm Cove, adjoining the settlement, and an attempt made to raise wheat, but time has shown that the soil in the immediate neighbourhood of Sydney is not suited to the cultivation of this cereal, and even if a good crop had been obtained the colonists must have starved while it was maturing. No food worth mentioning was procured from the land, and the little community was on the brink of starvation, when a ship arrived with another batch of colonists, but without stores. This brought matters to a climax, whereupon Governor Phillip sent the Sirius to the Cape Colony, and the Supply to Batavia, to procure provisions, which, however, could only be obtained in insufficient quantity, so that in a few weeks after the return of these vessels the state of affairs became as bad as before, and starvation again stared the Colony in the face. Under these circumstances, everyone, including the Governor himself, was placed on short allowance, and even the sheep and cattle which had been reserved for breeding purposes were killed for food. In this aspect of affairs the Governor bethought himself of Norfolk Island, whither, shortly after his arrival, he had sent Lieutenant Philip Gidley King, of the Sirius, to establish a branch colony. A detachment of 200 convicts, with a guard of 70 marines, was, therefore, despatched to the island. On arrival they found that King and his men had cleared a considerable portion of land, and had succeeded in raising an abundant crop. But the Sirius, in which the new detachment sailed, was wrecked on a reef off the island, so that no supplies were procured thence at that time.

The "Second Fleet."

When the prospects of the settlement at Sydney Cove had reached their gloomiest, the "Second Fleet," consisting of three store-ships, arrived, and snatched the Colony from the very brink of destruction by famine. This tided over the difficulty, and so great a privation of food was never again experienced. Fresh difficulties, however, beset the settlers by the arrival of some shiploads of immigrants, most of whom were in a sick and dying condition. Of 1,700 men and women who had been embarked, 200 died on the voyage, and several hundred more were found to be *in extremis* on arrival. In the midst of these horrors the Governor's responsibilities were further increased by the attempts of some of the prisoners to escape from the Colony. Some took to the bush, others stole boats and put to sea, intending to reach the Dutch settlements in the Indian Ocean. Daring as this latter attempt may appear, it was in one instance successful; two men and a woman, in an open boat, succeeded in reaching Timor, where they were imprisoned and sent back to Sydney on the first opportunity. Numerous efforts were made to escape from the settlement by land, the ignorance of the convicts being such that many imagined they could walk overland to China, and not a few perished in the bush while making the attempt.

Escape of prisoners.

Governor Phillip's health gave way under the care and anxieties of his office, and in 1792 he returned to England, where in reward for his exertions in founding the Colony he received a pension, and died at an advanced age. Major Grose and Captain Paterson, officers in charge of the military, administered the Government till the arrival of his successor. In 1795, Captain Hunter, who after the loss of the Sirius had gone to England, arrived as the second Governor. With the arrival of Governor Hunter affairs took a new turn. He brought out a number of free settlers, mostly farming men; and some fine alluvial land having been discovered on the banks of the Hawkesbury, farming was successfully started, and in a short time more than 6,000 acres were under crops of wheat and maize. The attempts to introduce cattle were for a time unsuccessful, but in 1796 a herd of 60 head was discovered at the "Cowpastures," near Camden. These were the descendants of some cattle which had strayed from the settlement several years before. Though their quality was found to have deteriorated, they proved a very welcome addition to the live stock of the settlement. In 1800, when Captain Hunter left the Colony, the population was over 6,000; attempts had been made to penetrate into the interior, but without success; the Hunter River and its coal-

Departure of Phillip.

Farming enterprise initiated.

mines had been discovered, and the mines were being worked by a detachment of prisoners; the city of Newcastle had been founded, and the New South Wales Corps, a military body enlisted for service in the colony (the first detachments of which had arrived in 1790), formed an efficient garrison, and guard over the more refractory prisoners. During Governor Hunter's term of office Bass and Flinders minutely examined the coast to the south of Sydney, in a small boat only 9 feet over all; and the former discovered the strait which bears his name, thus proving Tasmania to be an island, and not the southern extremity of the continent, as previously supposed.

Newcastle founded.

Governor King.

The next Governor was Philip Gidley King, previously mentioned as the Lieutenant of the Sirius, who was despatched by Phillip to found a settlement on Norfolk Island. Though all fears of famine had now disappeared, Governor King soon found himself involved in difficulties of a scarcely less distressing nature. To explain these it will be necessary to describe the constitution of the New South Wales Corps. This body had been specially raised for service in the Colony, the officers of the King's regiments not unnaturally objecting to be sent to such a far distant settlement, where they knew that they would find no intellectual occupation, and where their sole work would consist in acting as a prison guard, or, at most, in making a few raids, in alleged reprisals for the misdeeds of the illused, and often sorely provoked, aborigines. As a military guard of some sort was necessary, this corps was raised, and a few enterprising spirits—many of whom had never served before—were induced to accept commissions, with the view of obtaining grants of land and making their fortunes in the Colony. Unfortunately, the readiest means to this end was found in the import trade, and as rum was in great request, the officers of the New South Wales Corps became importers of that spirit in large quantities, and even set up private stills, in defiance of a Government order to the contrary. As an instance of the enormous profits made in this trade, it may be mentioned

Traffic in spirits.

that the retail price of rum, on the arrival of Governor King, was £2 per gallon, 7s. 6d. to 10s. being the utmost cost to the importer. To put a stop to this state of things—in which the officials and rulers of the Colony were really doing their best to debase those committed to their charge—a clause was inserted in the instructions of the new Governor, as follows:—"You are to order and direct that no spirits be landed from any vessel coming to Port Jackson without your consent." In consequence of this order, King proceeded to act promptly, and when he left the Colony in 1806, he had sent away no less than 69,484 gallons of spirits, and 31,293 gallons of wine. The quantity which he allowed to be landed was sold, by his order, at various prices, the maximum not exceeding 10s. per gallon. It may be easily imagined what a storm such vigorous proceedings caused among the importers, and how embittered the officers of the New South Wales Corps became against the Government.

Suppression of the "Rum currency."

During King's time a serious mutiny occurred among the prisoners. The more tractable of the convicts were "assigned" as servants to the settlers, and engaged in working the farms and squattages, but the more desperate characters, made desperate in many instances by the treatment they received, were worked on the roads, in chain-gangs. A party of over 300 of these chain-gang men was employed at Castlehill, on the road between Parramatta and Windsor. These men, taking advantage of the small number of their guard, abandoned their work, managed to remove their irons, seized some firearms, and marched towards the Hawkesbury, expecting to be reinforced by the men employed in that neighbourhood. Major Johnston, second in command of the New South Wales Corps, pursued them, however, with only twenty men, and on coming up with them, charged with such precipitation that the mutineers were fain to lay down their arms and beg for mercy. Three or four of the ringleaders were afterwards hanged, and the rest were permitted to return to their duty on undertaking to be of good conduct for the future.

The Castlehill Revolt.

Initiation of wool-growing.

An event of the utmost importance to the Colony also took place under the administration of Governor King. This was the initiation of wool-growing. John Macarthur, who had held a commission as captain in the New South Wales Corps, procured, by great trouble and perseverance, some Spanish merinos, and having obtained a grant of 10,000 acres of land across the Cowpasture River, which estate he named "Camden," commenced the growth of wool on a large scale. In a short time his enterprise showed every sign of a successful issue, to the great benefit of the Colony generally, and his own personal advantage. In spite of these evident signs of material progress Governor King was so worn out with the conflicts caused by his endeavours to suppress the rum traffic, and in such constant collision with the officers of the New South Wales Corps on that account, that he seized the first opportunity of leaving the Colony, and was succeeded in the Government in 1806, by William Bligh, a post-captain in the navy.

Governor Bligh.

Governor Bligh was a distinguished naval officer. His wonderful voyage after the Mutiny of the Bounty had caused the Imperial Government to entertain a high opinion of his conduct, as well as his courage and determination. His services were numerous, and he had been publicly thanked by Lord Nelson, after the bombardment of Copenhagen, for the gallantry and skill which he displayed on that occasion. Hence he was selected as a fit man to crush the clique of officers engaged in the rum traffic, and to purify official life in the Colony. King had been only partially successful in this direction, and the British Government, in the belief that he had been too yielding, or at least not physically able to put down the traffic, gave the strictest injunctions to Captain Bligh to stop the trade in spirits. Accordingly in March, 1806, he issued the following general order :—"His Excellency the Governor laments to find by his late visit through the Colony that the most calamitous evils have been produced by persons bartering, or paying, spirits for grain of all kinds, and the necessaries of life in general, and to labourers for their hire ; such proceedings depressing the industrious and depriving the settlers of their comforts. In order, therefore, to remedy these grievous complaints, and to relieve the inhabitants, who have suffered by the traffic, he feels it his duty to put a total stop to this barter in future, and to prohibit the exchange of spirits or other liquors as payment for grain, animal food, wearing apparel, or any other commodity whatsoever, to all descriptions of persons in the Colony and its dependencies."

This order is in itself sufficient to indicate to what fearful lengths the "rum currency" had been carried. Naturally it would have been expected that all respectable people, the military and ex-military especially, would have joined the Governor heart and soul in his efforts to put a stop to the traffic, and induce a more healthy state of things. Such, however, was not the case; and the struggle in respect to the illicit trade continued throughout the whole period of Bligh's governorship.

Embittered relations between the Governor and settlers.

Other matters embittered the relations between the Governor and the colonists, and in these Bligh was not so obviously in the right as in his attempt to put down the contraband traffic in spirits. The contest reached its climax on the arrest of John Macarthur, whose efforts to promote the growth of wool have been alluded to. That gentleman had become specially obnoxious to the Governor; and as he was also the chief trader in the community, he was selected as a scapegoat for the sins of the rest. Matters were brought to a crisis in the following manner, though the immediate circumstances of his prosecution had no direct connection with the barter of spirits. Mr. Macarthur had been part owner of a vessel that traded to Tahiti for salt pork and other articles, for the supply of the Colony. At a time when this vessel was lying in Port Jackson, he received a summons from Mr. Atkins, the Judge Advocate—that is, Chief Justice—to appear before him to answer to a complaint on the part of the crew of his vessel of withholding from them their wages, in consequence of which they alleged that they had been compelled to break through the port regulations, by coming ashore without special order. Macarthur returned an answer in writing, explanatory of his conduct in the matter, but did not obey the summons by appearing in person. This was construed to be an act of contumacy, which some attributed to a feeling of personal resentment towards the Governor, engendered by the action of the latter against the "rum currency."

Arrest of Macarthur.

A warrant was accordingly issued for Macarthur's apprehension, and on the 25th January, 1808, he was brought before the Judge Advocate and a military jury of six, consisting of officers of the New South Wales Corps—such being at the time the composition of the Supreme Court of the Colony. Mr. Macarthur objected to the Judge Advocate sitting on his trial, on the ground that he bore him personal ill-feeling, for which assertion it would appear that there was some foundation, especially as Atkins's adviser throughout the whole proceedings was one George Crossley, a transported attorney, who is believed to have been an enemy of Macarthur. Be this as it may, the Judge Advocate refused to abdicate his position, and the Governor declined to supersede him, for which, indeed, he had no authority, Atkins having been appointed by the British Government.

Conduct of the military officers.

At this juncture the Governor summoned the six officers to his presence, to explain their conduct in supporting Macarthur's protest and refusing to sit with the Judge Advocate, but they declined to obey. The Governor also sent several times during the next day to Major Johnston, the Commandant, at his residence at Annandale, asking him to confer with him as to the conduct of his subordinates. That officer, however, declined to come to town, on the plea of ill-health. This was an evident subterfuge, for between 6 and 7 p.m. on the same day (the Anniversary of the foundation of the Colony) he suddenly made his appearance in the Barrack Square, where, if we may believe his statement, he found everything in a state of ferment and confusion, and himself beset with the clamours of a number of the leading inhabitants, civil as well as military, calling upon him to put the Governor under arrest. He accordingly marched at the head of his regiment, Deposition of Bligh.

ith drums beating and colours flying, to Government House, and Governor Bligh was put in close confinement in his own residence. Johnston thereupon assumed the Government, his first act being to suspend the Judge Advocate, the Commissary, the Provost-marshal, the Chaplain, and other principal officials, and to appoint others to act in their place.

Major Johnston continued to administer the Government till his Lieutenant-Colonel (Foveaux) superseded him, as the senior officer in the Colony, and eventually Colonel Paterson came from Tasmania and assumed the direction of affairs. Both these officers approved Johnston's proceedings, but the latter set Bligh at liberty after a detention of twelve months, on condition of his proceeding straight to England, in a vessel which was then ready to sail. Bligh promised to do so, but called at Tasmania on his way, where the military authorities attempted to detain him, but he escaped their hands.

News of the affair had meanwhile reached England, and the Government was very much concerned at the proceedings of the military, and had despatched Lieutenant-General Macquarie to the Colony as Governor. His instructions were to reinstate Governor Bligh for twenty-four hours, to assume the government himself, and to send Johnston home under close arrest. Bligh ould not be reinstated, as he had left Sydney; so Macquarie's first act was to arrest Major Johnston, who was subsequently tried by court-martial in England and sentenced to be cashiered, the leniency of the sentence being such as to call forth special remark from the Prince Regent, in a minute appended to the Proceedings, distinctly stating that it was not to be drawn into a precedent. Johnston afterwards returned to the Colony, and died t his estate at Annandale.

Johnston tried by Court-martial.

Arrival of Macquarie.

With the arrival of Governor Macquarie, the colony entered on stage of decided progress. The final abolition of the traffic in um was followed by a marked improvement in the morals of the opulation. Schools were established, and the children, who had hitherto grown up in total ignorance, were taught to read and write, and instructed in useful handicrafts. An impetus was given to exploration, and the dwellings of the settlers in the bush were much improved by the efforts of the Governor during the annual tours which he made through the Colony. Churches and public buildings were erected, asylums founded, and a better tone was given to society generally by the exertions of this philanthropic governor, ably seconded by the endeavours of his high-minded wife, who laboured to improve the condition of her sex and the children in the Colony. Among the many beneficial works undertaken by Macquarie, by far the most important was the road over the Mountains, via Lapstone Hill and Mount Victoria, to Bathurst. After many attempts to penetrate the Coast Range, it had been at last successfully crossed in 1813 by Blaxland, Wentworth, and Lawson, names memorable in the annals of the Colony. An account of the expedition will be found in another place.

Schools and Churches opened.

Macquarie's policy.

Another distinguishing feature in Governor Macquarie's policy, which was almost as beneficial as his efforts to instruct the population in religion and morality, and to open up the country, was the favour with which he treated the "emancipists," that is, those convicts who had become free by serving out their sentences. When it is remembered that the majority of those transported had been guilty of petty offences only, or of acts which in these days would scarcely be deemed offences at all, the Governor's determination to give every encouragement in the way of official recognition to emancipists must be strongly commended. To transport a person for a petty offence, to ostracise him for the rest of his life, and to extend the social ignominy to his children was in the highest degree unjust; and Governor Macquarie, as a humane man, set his face against the custom. In religious matters he showed a largeness of mind, in advance of public opinion, by removing, as far as lay in his power, the religious disabilities under which a large section of the colonists laboured. In 1821, after a longer term of office than has been allotted to any Governor either before or since, "L. Macquarie, Esq.," as he modestly styles himself in the inscriptions on the public buildings he erected—discarding the prestige attaching to his military rank—left the Colony, to the regret of the entire population, and was succeeded by Sir Thomas Brisbane.

Governor Brisbane.

The new Governor trod in the steps of his predecessor. He carried on the work of exploration, and in 1823 despatched Mr. Oxley, Surveyor-General, to survey Moreton Bay, Port Curtis, and other parts of the north-eastern coast-line. Oxley discovered a river debouching into Moreton Bay, which he named after the Governor, and a town was founded on its banks, also named Brisbane, which has become the capital of the Colony of Queensland. The Murray and Murrumbidgee Rivers were discovered soon afterwards by Hovell and Hume, who had formed an exploring party under the auspices of the Governor. The immigration of free settlers was much encouraged by Sir Thomas Brisbane, the result being the arrival of numbers of young men, many possessing capital, who became squatters, and soon wrought an important change in the Colony, by causing the costly Government farms to be broken up. As a consequence the wants of the community were more cheaply and better supplied by private enterprise. Censorship of the press, which had been strictly enforced up to this time, was abolished by Governor Brisbane, by proclamation dated 15th October, 1824. Trial by jury was introduced about the same period, by which the privilege of being tried by his peers was extended to every man; the assessors to the judge before that time having been chosen exclusively from officers in the army. Sir Francis Forbes, the first Chief Justice, was mainly instrumental in introducing this great and salutary change in the administration of the law. The first normally constituted jury sat at the November Quarter Sessions of 1824. An Act had also been passed by the Imperial Parliament, in 1823, which conferred another most important privilege on the Colony. It was provided that the Governor should nominate a Legislative Council of seven members, by whose advice he was to be guided. Previously to the appointment of

Free Immigration encouraged.

Trial by Jury introduced.

this Council the Governor had been virtually absolute in power, the only check upon him being the public opinion of the colonists and the authority of the British Government, as represented by the Secretary of State for the Colonies. This Council of Seven was really the nucleus around which have gathered our present Constitution, and the liberties we now possess. It was the first step, in which, says the proverb, all the difficulty consists; and yet it was only after much agitation that even this modicum of justice was conceded.

Governor Darling.

The next Governor was Sir Ralph Darling, who, finding the Colony in the state of progress above described, by a series of blunders nearly succeeded in marring the beneficial result of the efforts of his predecessors. Arriving in Sydney in 1825, he soon became involved in very serious disputes with the colonists and the press. In order to meet the criticisims of the latter, a number of Acts were passed by the Council, which had the effect of stifling obnoxious comments for the time. One good result which sprang indirectly from these arbitrary acts was the enlargement, in 1828, of the Legislative Council from seven to fifteen members. The "Bushranging Act" was passed by this Council to put down a prevalent nuisance—the gangs of escaped prisoners who infested the principal roads and robbed allcomers without distinction.

Exploration.

The work of exploration made some progress in Governor Darling's time, the famous journeys of Captain Charles Sturt having been undertaken under his sanction. Other explorers were Allan Cunningham, Hume, and George Macleay, son of Alexander Macleay, the Colonial Secretary of that day.

French settlements suspected.

It was strongly suspected at this time that the French had an idea of forming settlements in Australia. French ships constantly appeared off the coast, ostensibly fitted out for the purpose of making geographical discoveries, but really, it was believed, to found a colony in any Australian territory which they might find unoccupied. To frustrate this suspected design, Darling despatched two expeditions, in 1826, to King George's Sound and to Western Port, in which neighbourhood it was surmised the French were hovering. To show that there was some ground for these fears, chimerical as they may now appear, it will be sufficient to quote the Governor's instructions to the officers in charge of the expeditions. He says:—"Should you find the French already in occupation, you will, notwithstanding, land the troops, and signify to the Frenchmen that their continuance with any view of establishing themselves, or colonization, will be considered an unjustifiable intrusion on his Britannic Majesty's possessions." No Frenchmen, however, were found at either of the places named, and settlements were therefore promptly formed at Western Port, King George's Sound, and Swan River, in Western Australia. When Governor Darling left the Colony in 1831, much progress had been achieved, in spite of the newspaper war, and his personal unpopularity, the population having reached over 51,000 for the whole of New South Wales, while the value of the total exports was £500,000.

New settlements formed.

Governor Bourke.

The unpopularity of Governor Darling gave a factitious advantage to his successor, Sir Richard Bourke, even before his sterling qualities had become known. Sir Richard Bourke may be said to have been the real founder of our present free institutions, as, under his rule, the foundations of the Constitution we now enjoy were well and firmly laid, on the solid basis of full and equal rights to all, whatever their sect or belief, and whether emancipist or originally free. Immigrants began to arrive in large numbers, under a policy of assisted immigration, which was then first commenced. The first vote in aid of immigration was made by the Legislative Council at Bourke's suggestion, and the British Government doubled the amount given by the Colony. Under that system the first batches of immigrants to arrive were fifty young women from an orphan school in Cork, and fifty-nine mechanics from Scotland, whom the Rev. Dr. Lang introduced to aid him in building the Australian College.

Assisted Immigration initiated.

Establishment of Religious Equality.

Governor Gipps.

But the great achievement of Sir Richard Bourke's reign was the establishment of religious equality, and the breaking up of the monopoly of Government aid enjoyed by one communion. For his services in the cause of liberty, in this and other instances, a movement was set on foot after his departure—which took place in 1837, twelve months after the passing of the Church Act—to erect a statue of him in Sydney. Mr. Westmacott was commissioned to design a figure of Sir Richard in bronze, which, together with a granite pedestal, arrived in Sydney in 1842. It was erected where it now stands, at the Macquarie-street entrance to the Domain, opposite to the Public Library, and was unveiled on the 11th April, 1842. A general holiday was proclaimed on the occasion, and the assemblage was the most numerous which had up to that time gathered, for any purpose, in the metropolis. The succeeding Governor, Sir George Gipps, delivered a speech, laudatory of his predecessor, in whose steps he said he was resolved to tread. This was the first statue ever set up in Australia. It was no more than a fitting tribute to the virtues of the Governor, and serves even now as a reminder of the new order of things which he introduced.

Free grants of land abolished.

Free grants of land were abolished at this time. All land in the settled districts was put up to auction at an upset price of 5s. per acre, except in the Port Phillip district, where £1 per acre was fixed as the lowest price, on account of the fitness of the land for agriculture. Beyond the settled districts the runs of the squatters, whose boundaries had hitherto been undefined, were marked out, and a small rent charged, in return for a partial fixity of tenure, the squatters having previously been liable to be turned out at any time.

Sir Thomas Mitchell's explorations.

The famous expeditions of Sir Thomas Mitchell, who had succeeded Oxley as Surveyor-General, were undertaken during Bourke's tenure of office. The first was to the north, as far as Liverpool Plains; in the second, the country between the Bo
and the Macquarie was surveyed; and in the third, the cour
the Darling was traced, from its source to its junction wi

Murray. In the fourth, Mitchell discovered the rich lands of Victoria, which so enraptured him that he named the country Australia Felix.

Transportation abolished.

The reign of Sir George Gipps was marked by the abolition of transportation. The system of assigning convicts as servants to the settlers had ceased in 1838, and transportation itself was abolished by an Order in Council in 1840, though an attempt was made to revive it nine years later, an account of which will be given in due course. For many years previous to its abolition, the system of transportation was viewed with great disfavour by the colonists, and a powerful league was formed as early as 1830, to bring about its cessation. During the fifty-three years when New South Wales was open to receive British prisoners, the number of convicts sent to Sydney was 83,290, of whom 70,928 were males and 12,362 females. At the census of March, 1841, there were in the colony 18,248 persons, 14,718 males and 3,530 females, originally bond, but free by servitude or emancipation—and 24,489 persons, 21,367 males and 3,122 females, whose period of servitude had not expired. It would therefore appear that out of the total number of convicts sent to the Colony, 42,737 remained at the abolition of the system of transportation, while 40,553 had either been removed by death or had left the settlement.

Legislative Council established.

The great event of Governor Gipps's time was undoubtedly the introduction of a new Constitution, by the establishment of a Legislative Council composed of thirty-six members, twelve nominated by the Crown, and the remainder elected by those who were placed on the electoral roll, a small property qualification being required. The new Council met on 1st August, 1843.

Commercial crisis.

A great commercial crisis followed soon after the introduction of the new Constitution, so that the subject of paramount importance which engaged the attention of the Legislature was the financial condition of the Colony. The cessation of transportation had, of course, caused the withdrawal of large sums of British money, which used to be spent on public works and in maintaining the prison establishments, and the military necessary to guard them; and much distress was also caused by an unwise interference on the part of the Imperial Government with the land laws. The price of sheep fell in the most alarming manner, 1s. per head being a common price. Mr. O'Brien, who occupied a run in the Yass District, at length hit upon the happy idea of boiling down sheep for tallow, for which at the time there was a good market in Europe; and the price of sheep was thus raised to 3s. or 4s. a head, five shillings' or six shillings' worth of tallow being obtainable by the process of boiling-down. The meat-canning industry was started at the same time by Mr. Sizar Elliott, of Charlotte-place, Sydney, but was not financially a success, although the preserved meats, it is said, were of excellent quality.

Boiling-down introduced.

The Legislative Council, imagining that the very existence of the Colony was threatened by the prevailing state of things, sought to "avert ruin"—to use their own expression—by "pledging the public credit," but the Governor refused the Royal assent to the Bill passed for that purpose. It was then proposed to issue Treasury Bills, but the Council would not entertain the idea. The failure of the Bank of Australia, the liability of whose shareholders was unlimited, brought affairs to a crisis, and it was proposed to relieve the shareholders of their liability by a Bill empowering the bank to dispose of its assets by a public lottery. No attempt was made to defend lotteries in general, but it was contended that if the goods of proprietors of the bank were seized under executions, the bailiff would be seen in possession of one house in ten in Sydney, and that the result would be a panic, which would annihilate the value of property. Under pressure of such an argument as this the "Lottery Bill" passed, but was disallowed by the British authorities. The necessity of the case was so urgent, however, that the lottery took place, and was successfully completed before the law officers of the Crown could interfere to prevent it. Desperate diseases require desperate remedies, and the lottery was, no doubt, in the main beneficial.

The Bank of Australia Lottery.

Separation of Port Phillip.

The first agitation for the formation of the Port Phillip district, into a separate colony, took place towards the close of Governor Gipps's administration, and the claims of the trans-Murray residents to govern themselves were ably advocated by Dr. Lang, one of the six members returned by the district since known as the Colony of Victoria. The entire population of what is now New South Wales, Victoria, and Queensland did not, at that period, exceed 150,000, of which the Port Phillip district contributed only 30,000. Their distance from the seat of Government, nevertheless, justified the demand of the Victorians for separation, which was conceded in 1851, to their great permanent benefit. A few years subsequently, on the 1st December, 1859, New South Wales was again dismembered, losing its northern province, which was constituted a separate colony, under the name of Queensland.

Governor Fitzroy.

Sir George Gipps was succeeded as Governor by Sir Charles Augustus Fitzroy, in whose tenure of office occurred several of the most important events in the history of Australia. These, in the order of their happening, were the final abolition of transportation in 1849; the separation of Victoria in 1851; the discovery of gold in the same year, and the establishment of Responsible Government in 1855–6.

Attempt to revive transportation.

Prisoners had ceased to be sent to New South Wales in 1840, but owing to the great depression of trade which prevailed during the rule of Governor Gipps, station properties, in 1849, so depreciated in value as to threaten ruin to their holders. Many of the squatters thought that a revival of the system of assigned servants would be beneficial to their interests, and, as it happened, the Imperial Government wished at that time to possess once more a large penal colony. Two powerful interests therefore were allied in an effort to re-establish transportation, and the system of assigned servants. To meet this threatening combination, a number of public meetings were held in Sydney under the auspices of the Anti-transportation League, and an overwhelming expression of popular opinion, most vehemently adverse to [illegible] scheme, was

Attempt to revive transportation.

given; nevertheless the British Government, under the advice of Sir Charles Fitzroy, persisted in their endeavours to force prisoners upon the unwilling inhabitants of the Colony. Several ship-loads of convicts were accordingly sent out, and an attempt was made to land them in the first instance at the new settlement at Port Phillip, now the City of Melbourne. The settlers there, however, would not tolerate the proceeding, whereupon the ships were compelled to leave for Sydney and Moreton Bay, now Brisbane. One of the vessels, named the Hashemy, cast anchor in Port Jackson, and there immediately ensued a serious contest between the inhabitants and the Executive. Immediately on the fact becoming publicly known that the Hashemy was off the Heads with convicts on board, the people of the metropolis were lashed into a fever of excitement, and a great public meeting was forthwith convened to consider what steps should be taken in this pressing emergency, as it then was universally considered.

Landing of convicts forbidden.

The result was that the Government saw fit to forbid the landing of the prisoners at that time, not caring to face the obloquy and public indignation which the adoption of any other course would certainly have brought upon them. As, however, the Hashemy could not be sent back, and as her prisoners could not permanently remain on board, a compromise was entered into. The prisoners were removed from the ship, and a large batch sent to Moreton Bay, in order that the settlers in that district might have an opportunity of hiring them. The remainder were allowed to be assigned to various persons in the Colony, though it was stipulated that the men should not be landed in Sydney, nor employed in the county of Cumberland.

The Legislative Council afterwards proceeded to take action in the matter, and a resolution was proposed, to the effect "that an address be presented to Her Majesty, praying that the Order in Council which declared New South Wales a Colony to which convicts might be sent be at once revoked." The adjournment of the Council was, however, agreed to before the motion could be put. In consequence of this partial shelving of the question an overwhelming public meeting was held, which petitioned the Council to use its utmost endeavours to prevent the revival of transportation in any form. The petition in a short time was signed by over 35,000 persons (more than two-thirds of the population of the metropolis). There was no resisting this manifestation of public opinion, and the pro-transportation members temporarily withdrew from the Council, whereupon the motion just stated was carried unanimously, and the address to the Queen was accordingly transmitted. The Order in Council was revoked, and transportation to New South Wales was thus, after many years of fretful agitation, absolutely and finally abolished. The discovery of gold, which shortly followed, gave a new impetus to Australian society, and by developing the industry and wealth of the country rendered a return to the "prison times" for ever impossible.

Anti-transportation meetings.

Final abolition of transportation.

The discovery of gold, in 1851, was by far the most important incident which had yet occurred in the annals of the country. An account of that remarkable event will be found in its proper place, but a few remarks are here called for as to the historical bearing of the great discovery. For many years previous to 1851 it was known that small quantities of gold had been found in the Bathurst district, and a colonist offered, during the administration of Sir George Gipps, to conduct the Government surveyors to a spot where he said gold existed in payable quantities. The project was, however, discouraged. The Colony was enjoying at the time a period of great prosperity, the depression of previous years having been successfully tided over; and it was probably thought unadvisable by the authorities to disturb the settled industries of the Colony, by the incitement to speculation which the gold fever would generate.

Discovery of gold.

A few years passed away, and the recollection of the supposed gold discoveries was still fresh in men's minds. The prosperous days with which Governor Gipps's administration closed gave place to less fortunate times. Wages were low and work scarce, when suddenly the tale of the gold discovery was on every tongue.

Gold fever.

The first nuggets.

In the early part of 1851 nuggets began to arrive in Sydney. They had been found in the vicinity of Bathurst, and their inspection by the public raised a wave of excitement, which affected all classes. It is not surprising that the possibility of amassing a fortune in a few months—which seemed indisputable from the presence of so many specimens of gold—should have induced hundreds of people of all ranks to abandon their employments, and set out for Bathurst. Nor could news of such a nature be confined within the Colony, and before many months had elapsed, the presence of gold in Australia was known all over the world. Then followed a mighty rush, from every quarter of the globe, of the most enterprising spirits, and those physically the most capable of enduring the unknown hardships before them, a circumstance on which Australians in the future will have occasion to congratulate themselves, for the splendid physique of the early colonists, already manifested in their sons and daughters, must undoubtedly become the inheritance of succeeding generations.

Effects of the discovery of gold.

The effect produced on society by this most fortunate discovery, was unpleasant enough at first. Stations throughout the Colony were left without hands, and all ordinary occupations were threatened with extinction, in consequence of the general exodus to the gold-fields. The squatters even petitioned the Government asking that martial law might be proclaimed, and all gold-digging peremptorily prohibited, in order that the regular industrial pursuits of the country should not be interfered with. The Governor however, refused to accede to this manifestly absurd request. So great a change in the circumstances of the country as that wrought within so short a time by the gold discovery, could not fail to affect many persons prejudicially. But after a few years, affairs resumed their normal course, and gold-mining found its level as one of the ordinary industries of the country. The great and permanent benefit which resulted from the influx of an enterprising population, the increase of wealth, and the consequent development of many other industries cannot be overrated. Nothing, since the introduction of wool-growing, has tended to develop its resources and to make so widely known the great advantages which Australia offers to the overcrowded populations of the Old World, as the discovery of gold in 1851. Since that era the country's progress has been by leaps and bounds, and Australia, which was before regarded merely as a far off dependency of Great Britain, now takes a place amongst the nations of the world, and is in a fair way of realizing the prophetic visions of future greatness which inspired its founders.

Events preceding Responsible Government.

The series of events which led to the introduction of Responsible Government still remains to be touched upon. With a narrative of these, and an account of the actual inauguration of representative institutions—that is, with the political occurrences of 1855—this narrative will fitly close. All occurrences since that period have been treated as far as possible as matters of statistics, and will be found in their places in other parts of this volume.

For several years before the discovery of gold there had been growing up among the colonists a strong desire for a larger measure of self-government. The position of the Colony as a Crown dependency was a galling one, especially when the population became so largely increased through the outbreak of the gold-diggings. It was felt that the old system, which might have sufficed for the government of the people when their numbers were few was quite unsuitable for so large a community as New South Wales had now become. Hence the agaitation that had already been commenced in favor of a free Constitution was continued with ever-increasing force.

Victoria erected into a separate Colony.

In 1851 an Act was passed by the Imperial Parliament (13 and 14 Vict., No. 59) in accordance with which the dependency of Victoria was erected into a separate Colony, and a Constitution was to be conferred upon New South Wales. Accordingly, in 1852, a Select Committee of the Legislative Council was appointed to prepare a Constitution for the Colony in pursuance of the powers conferred by the Act above cited. The first result of the labours of the Committee was that a remonstrance was sent to the Secretary of State for the Colonies, directed not so much against the old form of government, as against the amendment of the Constitution, which it was proposed to introduce. Subsequently, after much correspondence, and the receipt of a despatch from the Secretary for the Colonies, Sir John Pakington, practically conceding all that the colonists demanded, a Committee of the Legislative Council was appointed to draft the new Constitution. It consisted of the following gentlemen:—Messrs. Wentworth, Deas-Thomson, James Macarthur, Cowper, Martin, Macleay, Thurlow, Murray, and Dr. Douglas.

Framing of the Constitution Act.

The Committee, in their report, stated that they desired to have a form of government in perfect accordance with the British Constitution, and that a conservative element ought to be constantly present in the Constitution; and for this reason they declared they did not feel inclined to hazard the experiment of an Upper House based on the general elective franchise. To provide for this Upper House, the Committee gravely made the following recommendations. They proposed that an hereditary nobility should be created, leaving the Crown to decide whether or not to give the first holder of a title a seat for life, and that the aristocracy, to be thus established, should, in the future, elect a certain number of their order to form the higher branch of the Legislature. The question of federation was also noticed in the report:—"One of the most prominent legislative measures required by the Colony, and the colonies of the Australian group generally, is the establishment at once of a General Assembly, to make laws in relation to those intercolonial questions that have arisen, or may hereafter arise, among them. The questions which would claim the exercise of such a jurisdiction appear to be (1) Intercolonial tariffs and the coasting trade; (2) Railways, roads, canals, and other such works running through any two of the colonies; (3) Beacons and lighthouses on the coast; (4) Intercolonial gold regulations; (5) Postage between the said colonies; (6) A general court of appeal from the courts of such colonies; (7) A power to legislate on all other subjects which may be submitted to them by addresses from the Legislative Councils and Assemblies of the colonies, and to appropriate to any of the above mentioned objects the necessary sums of money, to be raised by a percentage on the revenues of all the colonies interested."

Hereditary nobility proposed.

This report, when it was made public, caused a good deal of commotion in the metropolis, and at a public meeting held at the Royal Hotel, the following energetic protest against part of the scheme was adopted :—"That this meeting views with surprise, and strong feelings of opposition, the scheme proposed for the political constitution of the Colony, especially in respect to the establishment of an Upper House of Crown nominees, and a certain unprecedented order of colonial nobility ;" and a further resolution decided that "a larger meeting should be held, in order to record a protest against a measure so repugnant to the feelings of British subjects, and fraught with so much danger to the political rights of the people." A more numerous meeting was accordingly held, the principal speakers at which were Mr. (now Sir Henry) Parkes, Messrs. Robert Johnson, Montefiore, Deniehy, Mort, Piddington, Flood, and Archdeacon McEncroe.

The new Constitution adopted.

In spite of these meetings the Council proceeded to debate the Report as it stood. After a great deal of opposition to the retention of the "aristocratic" clause, and after the holding of more public meetings, the "Constitution Act," the basis of the rights we now enjoy, was finally passed on the 21st December, 1853. This Act established two Legislative Chambers. The first was to consist of not less than twenty-one natural-born or naturalized subjects, four-fifths of whom were to be persons not holding any office of profit under the Crown, who were to be nominated by the Governor in the name of the Queen. The first members were to hold their seats for five years, at the expiration of which period all appointments were to be made for life. The President was to be appointed by the Crown. The Legislative Assembly was to consist of fifty-four members, the qualification for the franchise being fixed as follows:—All inhabitants of full age, being native-born or naturalized subjects of the British Crown, and not having been convicted of any crime—or, if convicted, pardoned—and having paid all rates and taxes for which they were liable, were placed in the condition precedent required for either voting or being elected to the Assembly, but they were required, in addition, to be qualified in the following respects:—As the owner of a freehold estate of £100; as householders, lodging occupiers, or leaseholders for three years at £10 per annum. To these were added boarders at £40 per annum, persons receiving £100 a year salary, and pasture-license holders for one year. Ministers of religion were declared incapable of being elected to the Legislature. Subsequent alterations to the Constitution Act have made the principle of universal manhood suffrage the basis of the electoral system of the Colony, though non-resident property holders are still entitled to the franchise under certain restrictions. A full account of the parliamentary system will be found under the chapter of this work treating of the constitution of the Colony.

Inauguration of Responsible Government.

Before the constitution could become operative it was necessary that the sanction of the British Parliament should be obtained, and for this purpose Wentworth, whose name has become identified with the establishment of responsible government, and E. Deas-Thomson, were authorized by the Council to proceed to England in order to do what lay in their power to facilitate the passage of the necessary measure. Accordingly, about the middle of the year 1855 an Act was passed by the Imperial Parliament empowering the Queen to assent to the Bill drawn up by the Council, and on the 19th December, the new Constitution was formally inaugurated by the new Governor-General, Sir William Denison, who had just succeeded Fitzroy, being sworn in afresh under a Commission from the Queen, which revoked his former credentials and appointed him "Governor-in-Chief" of New South Wales. The writs for the first parliament were issued on the 22nd May of the following year.

Succession of Governors.

The succession of Governors from the foundation of the Colony to the present time is given in the following table :—

Names.	From	To
Captain A. Phillip, R.N.	26 Jan., 1788	10 Dec., 1792.
Captain F. Grose (Lieutenant-Governor)	11 Dec., 1792	12 Dec., 1794.
Captain Paterson, New South Wales Corps (Lieutenant-Governor).	13 Dec., 1794	1 Sept., 1795.
Captain Hunter, R.N.	7 Sept., 1795	27 Sept., 1800.
Captain P. G. King, R.N.	28 Sept., 1800	12 Aug., 1806.
Captain W. Bligh, R.N.	13 Aug., 1806	26 Jan., 1808.
During Governor Bligh's suspension the Government was successively administered by—		
Lieutenant-Colonel G. Johnston ... Lieutenant-Colonel Foveaux .... Colonel William Paterson .... All of the New South Wales Corps, afterwards 102nd Regiment.	26 Jan., 1808	28 Dec., 1809.
Major-General L. Macquarie	1 Jan., 1810	1 Dec., 1821.
Major-General Sir T. Brisbane, K.C.B.	1 Dec., 1821	1 Dec., 1825.
Colonel Stewart, 3rd Regiment (Acting Governor).	6 Dec., 1825	18 Dec., 1825.
Lieutenant-General R. Darling	19 Dec., 1825	21 Oct., 1831.
Colonel Lindsay, C.B. (Acting-Governor)	22 Oct., 1831	2 Dec., 1831.
Major-General Sir Richard Bourke, K.C.B.	3 Dec., 1831	5 Dec., 1837.
Lieutenant-Colonel K. Snodgrass (Acting Governor).	6 Dec., 1837	23 Feb., 1838.
Sir George Gipps	24 Feb., 1838	11 July, 1846.
Sir Maurice O'Connell (Acting Governor)	12 July, 1846	2 Aug., 1846.
Sir Charles A. Fitzroy	3 Aug., 1846	17 Jan., 1855.
Sir William Thomas Denison, K.C.B.	20 Jan., 1855	22 Jan., 1861.
Lieutenant-Colonel John F. Kempt (Administrator).	23 Jan., 1861	21 Mar., 1861.
The Right Honorable Sir John Young, K.C.B., G.C.M.G. — Administrator	22 Mar., 1861	15 May, 1861.
Governor-in-Chief	16 May, 1861	24 Dec., 1867.
Sir Trevor Chute, K.C.B. (Administrator)	25 Dec., 1867	7 Jan., 1868.
Right Honorable the Earl of Belmore, P.C.	8 Jan., 1868	22 Feb., 1872.
Sir Alfred Stephen, Knt., C.B. (Administrator).	23 Feb., 1872	2 June, 1872.
Sir Hercules George Robert Robinson, G.C.M.G., Governor-in-Chief.	3 June, 1872	19 Mar., 1879.
Sir Alfred Stephen, K.C.M.G., C.B. (Lieutenant-Governor).	20 Mar., 1879	3 Aug., 1879.
The Right Honorable Lord Augustus William Frederick Spencer Loftus, P.C., G.C.B.	4 Aug., 1879	9 Nov., 1885.
Sir Alfred Stephen, G.C.M.G., C.B. (Lieutenant-Governor).	10 Nov., 1885	11 Dec., 1885.
The Right Honorable Charles Robert, Baron Carrington, P.C., G.C.M.G.	12 Dec., 1885	(still in office.)

PART II.

Limits and Area.

Boundaries of the Colony.

THE Colony of New South Wales lies almost entirely between the 29th and 36th parallels of south latitude, and between the 141st and 153rd meridians east of Greenwich. It is bounded on the east by the Pacific Ocean, to which it presents a coast-line extending over 700 miles, from Point Danger at its north-eastern extremity to Cape Howe at the south-east. From the point last mentioned, which is also the north-east limit of the Colony of Victoria, it is bounded by an imaginary line, running in a north-westerly direction to the source of the Indi, a stream rising at the foot of Forest Hill, a few miles south of the Pilot Mountain, one of the most conspicuous peaks of the Australian Alps. The southern boundary of the Colony follows the course of the Indi, and afterwards of the Murray, into which the first-named stream ultimately merges, as far as the 141st meridian of east longitude. The intersection of the Murray with this meridian forms a common point of the three Colonies of New South Wales, Victoria, and South Australia.

On the west, the Colony is separated from South Australia by the line of the 141st meridian, as far as its intersection with the 29th parallel of south latitude, at which point New South Wales, South Australia, and Queensland touch. Commencing at this point, the northern boundary of the Colony follows the 29th degree of latitude, till it is crossed by the Macintyre River, one of the upper branches of the Darling, not far from the 149th meridian. Thence it follows the course of the Macintyre upward, to the junction of its tributary, the Dumaresq; leaving the Macintyre it follows the tributary stream till it meets a spur extending from the main Dividing Range to the junction of Tenterfield Creek and the Dumaresq. The boundary runs along this spur until it joins the main range, thence, almost parallel to the coast, it follows the Dividing Range to Wilson's Peak, where the Macpherson Range branches eastward. Following the last-named range, the northern boundary reaches the coast at Point Danger.

Area.

The area comprised within these limits is estimated at 310,700 square miles, or 198,848,000 acres, being a little over two-and-a-half times that of Great Britain and Ireland. Excluding the surface covered by rivers and lakes, the area would be 195,882,150 acres or about 306,066 square miles.

Length and breadth.

The length of the Colony, from Point Danger on the north to Cape Howe on the south, is 680 miles. From east to west, along the 29th parallel, the breadth is 760 miles, while diagonally from the south-west corner, where the Murray passes into South Australia, to Point Danger, the length reaches 850 miles.

PART III.

Physical Configuration.

THE surface of New South Wales is divided naturally into three distinct zones, each widely differing in general character and physical aspect, and clearly defined by the Main Dividing Range, which traverses the country from north to south. The table-land, which forms the summit of this range, comprises one of the zones above mentioned, and marks the division between the coastal region, forming the eastern watershed, and the great plain district of the interior.

MOUNTAINS, TABLE-LAND, ETC.

Dividing Range.

The Main Dividing Range runs almost parallel to the coast, at no great distance from it. On the eastern edge of the table-land the mountains rise abruptly to a height which averages between 2,000 and 3,000 feet, while on the western side they slope gradually towards the great central plain. The geographical centre of the whole mountain system of South-Eastern Australia lies in the south-western portion of New South Wales, close to the confines of Victoria. Here some of the peaks rise to a height of over 7,000 feet above the level of the sea. Mount Kosciusko and Mount Townsend, two of the highest peaks of the Australian Alps, attain an elevation of 7,171 feet and 7,256 feet respectively.

Central Plateau.

The central plateau, which these heights dominate, becomes subdivided into several branches, marking the watershed of three distinct river systems. The eastern watershed extends throughout the whole length of New South Wales and Queensland, and drains into the Pacific Ocean. The western watershed, embracing a portion of the three eastern colonies, is drained by the river system of the Murray and Darling into the Southern Ocean. In the southern watershed the Snowy River has its source, its upper basin being entirely in New South Wales, although its waters flow through Victoria and enter the sea near Bass' Straits.

The south-eastern portion of the Colony.

The south-eastern portion of the Colony has the appearance of having been convulsed by some great physical disturbance. The mountains are rugged, and their slopes abrupt, as is also the case in other portions of the Dividing Range, particularly in the Blue Mountains and the eastern parts of New England; but the width and altitude of the table-land are greatest in this portion of the Colony. The average height of the Snowy and Muniong Ranges, which belong to this district, reaches 5,000 feet; and the width of the plateau, in the direction of east and west, may be set down as 100 miles. The altitude of the Monaro district averages 2,000 feet above the sea level; but as the table-land runs northward it decreases greatly in height and in width, until it narrows to only a few miles, with an elevation of scarcely 1,500 feet.

Blue Mountains.

The table-land rises again at the Blue Mountains, where the principal summits attain a considerable elevation, Mount Beemarang reaching 4,100 feet. The general level of the plateau itself will be best understood when it is remembered that the great western railway of the colony traverses a district in these mountains, of which the Clarence siding, Mount Victoria, Mount Wilson, and Blackheath are stations, situated at an elevation of over 3,000 feet. The dividing chain again decreases gradually in its spread northward of the Blue Mountains, until, as a comparatively narrow chain, it divides the waters of the Goulburn and the Hunter, on the eastern slope, from those of the Namoi and the Castlereagh, on the western. The mass once more widens out in the Liverpool Ranges, where Mount Oxley stands conspicuous, at a height of 4,500 feet, whilst, still further north Ben Lomond, reaches 5,000 feet, and the table-land maintains an average altitude of 3,000 feet, giving to this district, although situated at no great distance from the tropics, the climate and aspect of much higher latitudes.

Mountain scenery.

Narrow valleys and deep gorges everywhere break the continuity of the Dividing Range. Such is especially the case in the Blue Mountains, where the scenery is of striking and characteristic grandeur. The table-land everywhere presents one strange peculiarity. The level land suddenly terminates, and many hundred feet below stretch, as far as the eye can reach, wooded valleys, whose undulating floors are walled in by sandstone cliffs, of height so enormous as to be without parallel elsewhere in the world. At the bottom of these valleys small rivulets and tiny streams, fed by waterfalls from the table-land, trace their way, under an ever verdant dome of graceful tree-ferns and giant eucalypti.

The mountain scenery of this part of New South Wales produces on the traveller an entirely new impression. There are no snow-capped peaks upon which the rising and setting sun produces strange and magnificent colour effects; nor does any peculiar shape of the summits strike the imagination, as in the Alps and Pyrenees of the Old World. On the contrary, from the plains the New South Wales mountains look rather insignificant. But gazing from the edges of the high table-land into the deep valleys below, the mind is awed by the realization of the magnificent scale on which Nature has worked in these solitudes. In many places the cliffs rise 2,000 feet perpendicularly from the valley beneath, and the hills at their feet, formed by the accumulation of débris from their sides and from the plateau above, appear as slight undulations. The valleys and sides of the gorges, wherever there is soil, are clothed with dense vegetation, and over all is the mantle of blue haze, which makes the whole effect most striking, and has given to the range visible from Sydney its appropriate name.

Coast Ranges.

The main range throws off many spurs towards the sea on the eastern slope. These divide the waters of the numerous rivers which flow into the Pacific Ocean. Almost everywhere between the coast range and the sea the country is hilly and serrated, more particularly in the southern portion of the Colony. In the Illawarra district, 50 miles to the south of Sydney, the mountains skirt the very edge of the coast, presenting towards the ocean a perpendicular face of cliffs nearly 1,000 feet in height. Further north there are wider valleys, and greater stretches of country available for tillage and pasture.

The western slope is entirely different. Numerous ramifications of the general mountain system are thrown off, but all slope gently towards the great central plain of the interior. So gentle, indeed, is the declivity, that the dividing lines of the various watersheds as they extend westward, are scarcely visible, being only indicated by a succession of low ridges and isolated elevations.

Western Mountain system.

In the extreme west of the Colony, verging on South Australia, another mountain system exists, forming the western edge of an immense depression, through which the largest rivers of the Australian continent hold their devious course. The Great Barrier and the Grey Ranges are part of this system. They consist of low hills, hardly rising to the dignity of mountains, culminating in a few solitary peaks, such as Mount Arrowsmith and Mount Lyell, which attain an elevation of only 2,000 feet above sea level.

Traces have been found of the existence at some earlier period of a range of primary rocks, extending from Orange to Cobar and Wilcannia, forming the watershed between the Lachlan and part of the basin of the Darling. The range no longer exists as a landmark, for, owing to denudation, it has almost entirely disappeared.

Mountains below limit of perpetual snow.

The whole mountain system of New South Wales lies below the limit of perpetual snow. On the south-eastern slopes of the Snowy Ranges, however, and on the summits of the high peaks of the Australian Alps, snow sometimes lingers throughout the year.

LAKES OF THE MOUNTAIN REGION.

On the summit of the Main Dividing Range, and within a few miles of the inland towns of Goulburn, Queanbeyan, and Braidwood, two of the principal lakes of the Colony are situated. Lake George is 16 miles in length and 6 miles in width, draining a basin whose area is about 490 square miles. The lake is situated at an elevation of 2,200 feet above the sea, and the scenery around it is very beautiful. This lake exhibits the phenomenon of a large drainage area without a visible outlet; for though it receives many small water-courses no stream leaves it. Lake Bathurst, a few miles eastward of Lake George, is another depression on the summit of the Dividing Range, and covers in ordinary seasons an area of about 15 square miles. It is similar in character to Lake George, having no outlet to the sea. Both lakes, in periods of great drought, shrink considerably in area; but Lake George in most seasons is a fine sheet of water, and now that the railway to Cooma skirts its shores, the attractiveness of its scenery already makes it a favourite resort of tourists.

Lake George.

Lake Bathurst.

THE COASTAL REGION.

Rivers of New South Wales.

Rivers.—The main range already described, traversing the country from north to south, gives rise to numerous rivers flowing into the South Pacific. Compared with the western rivers those of the eastern slope appear insignificant enough. But compared with the principal rivers either of England or France, their relative size and importance are at once manifest.

The Tweed and Brunswick.

In the extreme north of the Colony, the Tweed and Brunswick Rivers flow through a rich country, of semi-tropical aspect. Their courses are short, and bar entrances render them navigable only for small craft.

The Richmond.

A few miles south of the Brunswick, the Richmond descends from the heights of the Macpherson Range, on the slope of Mount Lindsay, one of the highest peaks of the northern table-land. The river has three branches, and is navigable on the main arm as far as Casino, 62 miles, and on Wilson's Creek to Lismore, 60 miles from the sea. The Richmond drains an area of about 2,400 square miles of country, rugged in its upper basin, and heavily timbered, and in its lower course, flowing through rich alluvial land, where the produce of semi-tropical climes grows luxuriantly.

The Clarence.

Immediately south of the last-named stream is the Clarence—the largest river on the eastern watershed. It takes its rise in a spur of the Main Dividing Range, and runs in a south-easterly direction for 240 miles, carrying a considerable body of water through one of the richest districts of the Colony, and emptying itself into the Pacific at Shoal Bay. The upper part of its basin is very rugged, so much so that its principal tributaries, the Mitchell, Nymboi, Tembarra, and Orara Rivers, rising in the New England table-land, between Armidale and Tenterfield, all flow in an opposite direction to the course of the main stream, generally trending to the north-east, and even, in the case of the Orara, to the north-west. The Lower Clarence is a magnificent stream, averaging half a mile in width from its mouth upwards, for nearly 50 miles, and is navigable for 67 miles, as far as Copmanhurst. Ocean-going steamers of large tonnage ascend the river as far as Grafton, 42 miles from the sea. The area of country drained by the Clarence is over 8,000 square miles, or nearly half as large again as the basin of the Thames, whose course is about as long as the Clarence, but navigable for only 60 miles.

The Bellinger.
The Nambuccra.

Two short rivers, the Bellinger and the Nambuccra, both navigable for some distance by small craft, enter the Pacific between the Clarence and Trial Bay.

The Macleay.

Into Trial Bay, the Macleay, one of the principal rivers of the coast, discharges after a course of 200 miles from its source near Ben Lomond. With its principal feeders, the Gyra and the Apsley, the Macleay drains an area of 4,800 square miles of country, the upper part of which, especially that portion through which the Apsley flows, is extremely rugged and precipitous. Series of waterfalls, some of which have a perpendicular descent of over 200 feet, mark the course of this stream as it runs through narrow gorges, whose sides rise in places to a height of about 2,000 feet. In its lower course the valley widens very considerably into magnificent alluvial plains, fast becoming the home of a numerous and thriving population. The Macleay is navigable for more than 30 miles, as far as the town of Greenhills, a few miles above Kempsey. The country through which it flows is for the most part thickly timbered.

The Hastings.

The Hastings is the next stream met with, emptying itself into the sea at Port Macquarie. The country which it drains is rich, undulating, and densely wooded, and the area within its watershed is 1,400 square miles. Its chief arm is formed by the Wilson and Maria Rivers, on the left bank, the latter joining the main stream at Port Macquarie.

The Manning.

The Manning rises in the Main Dividing Range, and flows almost due east through a prosperous district, rapidly becoming settled. The valley through which it flows is densely wooded, and the agricultural land on both sides of the river is unsurpassed for fertility. The Manning has a length of 100 miles, and, like most of the rivers of the seaboard, its course lies through undulating country, broken in the upper portion, but widening out as it nears the sea. Its chief tributary is the Barrington, on the right bank; on the left it receives the Barnard River, the Dawson, the Lansdowne, and other small streams. The river is navigable for ocean-going vessels as far as Wingham, about 20 miles from its mouth.

Before reaching the Hunter, several small streams are met with, amongst which may be mentioned the Wollomba and Maclean, falling into Wallis Lake, the Myall, which empties into Myall Lake, and the Karuah, which reaches the ocean at Port Stephens.

The Hunter.

The Hunter is one of the chief rivers of the Colony, and has its source in the Liverpool Range. It flows first in a southerly direction until its confluence with the Goulburn, thence it takes an easterly course, and reaches the sea at Port Hunter, on the shores of which is situated the City of Newcastle. The Hunter receives numerous tributaries. The chief of these, in addition to the Goulburn, already mentioned, are the Wollombi, the Paterson, and the Williams. With its tributaries, the Hunter drains a country extending over 11,000 square miles, an area more than twice as large as the basin of the Thames. The river is navigable for ocean-going vessels as far as Morpeth, 34 miles from the sea, whilst the Paterson and the Williams are both navigable, the one for a distance of 18 miles, and the other for 20 miles. The upper courses of the main river and its branches are through hilly, if not mountainous, districts, but its lower course is mainly through rich, sandy, alluvial flats. Through its lower course the river drains the largest and most important coal-field of Australia, whose emporium is Newcastle, the second city of the Colony in shipping and commerce. The length of the Hunter is over 200 miles.

The Hawkesbury.

Though less important from a commercial point of view than the Hunter, the Hawkesbury, which reaches the sea at Broken Bay, is none the less one of the finest rivers of the eastern seaboard. It is formed by the united waters of many streams, each of considerable local importance. Its chief tributaries come from the table-land or gorges of the Blue Mountains, but the principal branch of the river itself rises in the main range, further south. The range forming the watershed between the Hawkesbury and the streams flowing eastward leaves the main range near Lake Bathurst, runs north-easterly, and terminates at the sea near Coalcliff.

Wollondilly.

Under the name of the Wollondilly, the Hawkesbury has its source not many miles from Goulburn. Flowing past that town it proceeds in a northerly direction until it receives the waters of the Cox River, which come from the Blue Mountains, after passing through wild gorges, wherein may be found some of the most magnificent scenery in Australia. From the junction of the Cox

River the stream is known as the Warragamba, which name it retains until its junction with the Nepean. This river rises in the coast range overlooking Wollongong, and together with its tributary streams, the Cataract and Cordeaux, forms the source of the water-works from which Sydney now draws its supply. Though smaller than the Warragamba, the Nepean gives its name to the united waters of the two streams. After receiving the Nepean the river flows along the foot of the Blue Mountains, through a rich valley highly cultivated. From the Blue Mountains two streams add their waters to it, the Grose and the Colo, and from the junction of the last named the river is called the Hawkesbury. From the Colo junction the river still runs northward until it is joined by the Macdonald, an important stream, navigable for some distance above its confluence with the Hawkesbury. The Macdonald comes from the north, and joins the river on the left bank. The Hawkesbury, after turning to the east, holds its course through broken country, the scenery of which has been pronounced equal to any other river scenery in the world, and finally reaches the sea at Broken Bay. The course of the Hawkesbury extends over 330 miles, and the drainage area may be set down as 8,000 square miles. Navigation is possible as far as Windsor, 70 miles from the mouth, and a little dredging would enable sea-going vessels to reach this town.

The Hawkesbury.

In the neighbourhood of Sydney some small streams fall into Botany Bay. Two of these, the Woronora and George's Rivers, have their sources on the eastern slope of the ranges in which the Nepean, Cordeaux, and Cataract rise, and after rapid courses unite their waters before falling into the bay.

Rivers south of Sydney.

Generally speaking, the rivers south of Sydney are of less importance than those to the north, as the width of the coastal strip narrows considerably. The Shoalhaven, nevertheless, merits more than passing notice. It rises in the coastal range and follows the direction of the coast, flowing northerly through deep gullies, marked by magnificent scenery peculiarly Australian. Turning sharply to the east, it enters the alluvial plains, which are counted amongst the richest and most productive in the country. The Shoalhaven is 260 miles in length, but is navigable only for a few miles, and drains a district 3,300 miles in area. Further south, in the narrow belt between the ranges and the sea, flow the Clyde, Moruya, Tuross, and Bega Rivers. They all pass through rich, undulating, agricultural country, and each has an average length of from 60 to 70 miles. The Towamba River, at the extreme south of the Colony, empties itself into the Pacific at Twofold Bay.

Eastern rivers.

The physical aspect of all the eastern rivers is much the same, their upper courses being amidst broken and mountainous districts, and their lower waters flowing through undulating country with rich alluvial flats along their banks, for the most part highly cultivated. Where not cultivated, the country is densely covered with timber, some of which attains a magnificent growth, yielding the finest hardwood, and, in the north, cedar and pine.

The Snowy River.

Though belonging to another river system, the upper basin of the Snowy River is situated in New South Wales. This river receives the snow-fed streams rising on the southern slopes of the Monaro Range; its principal tributaries being the Bombala and the Eucumbene. The Snowy River and its tributaries water a considerable portion of the highest table-land of the Colony, between the mountain ranges of which are found large tracts of arable land, where the produce of colder climes may be grown to perfection. After leaving New South Wales, the Snowy has a rapid and tortuous course, and finally enters the sea between Cape Howe and Bass Straits, in the Colony of Victoria. The area of watershed in New South Wales is about 2,800 square miles.

HARBOURS AND PORTS.

Natural harbours.

With a coast so extensive as that of New South Wales, it would be natural to expect many harbours and bays affording outlets for the produce of the country. Such is the case. Besides harbours of commercial importance, there are others, which afford shelter for vessels in stress of weather, and a refuge in time of danger. Fortunately, however, harbours of refuge are not often required. The coast of the Colony is singularly free from cyclones, hurricanes, and like visitations. Gales are certainly not unknown, nor are disasters infrequently recorded; but the coast is very safe, and disasters are in many cases to be attributed to causes which ordinary prudence would have avoided.

Byron Bay.

Inside Cape Byron, in the north of the Colony, the bay of the same name offers shelter to vessels trading to Queensland, in all but north-east weather. A large pier has been constructed, by which the produce of the neighbouring districts of the Brunswick and Tweed may be shipped, when an entrance to these rivers is impracticable. It is also proposed to construct a breakwater, to effectually shelter the bay in all weathers. This work will probably shortly be commenced.

Shoal Bay.

At Shoal Bay, the entrance to the Clarence, the anchorage is safe and commodious, and when the works designed for improving the river entrance are completed, it promises to be one of the best ports on the coast.

Trial Bay.

Trial Bay, at the mouth of the Macleay, affords ample shelter and safe anchorage. The Government have erected a large prison on the hill overlooking the Bay, and it is proposed to utilize the prisoners' labour in constructing a breakwater, with the view of making Trial Bay not only a harbour of refuge, but a shipping port. When this design is accomplished, there is every reason to suppose that it will become one of the most frequented places on the coast, as the resources of the Macleay District are great and rapidly developing.

Port Macquarie.
Port Stephens.

Port Macquarie, at the mouth of the Hastings, and the harbour at Forster, near Cape Hawke, afford good anchorage. Port Stephens, a little further south, offers at all times the most safe and commodious harbour desirable. As a natural port it is hardly inferior to Port Jackson, and the scenery of its shores is very beautiful. At present, Port Stephens is little used, owing to its proximity to Newcastle, and the sparseness of the population in its immediate district.

Port Hunter.

Twenty miles further south is Port Hunter, at the mouth of the river of that name. When first used, the harbour was inconvenient and somewhat dangerous: but this has been altered entirely by the breakwaters and training walls which have been constructed. Newcastle harbour is now safe and roomy, with shipping facilities equal, if not superior, to those found in any other Australian port. Magnificent wharves line its shores, provided with hydraulic and steam cranes of the most modern type. The length of wharf frontage at Newcastle is two miles, the trade is large and increasing, and the city ranks third amongst Australasian seaports. The importance of Newcastle is mainly due to the existence of immense coal deposits in its neighbourhood, which supply not only all the Australian Colonies, but the China seas, and the Pacific slopes of the United States, and the countries bordering on the Spanish main. Latterly, too, large shipments of wool have been made direct to English ports, Newcastle having been till lately the terminus of the railway tapping the northern districts of the Colony.

Lake Macquarie.

A few miles further south is Lake Macquarie, in the centre of the coal-field of the Newcastle district, and covering an area of 44 square miles. The great drawback to the lake as a shipping port has been the shallowness of its entrance; but extensive dykes and training walls are being constructed, which have already increased the draught of water in the channel, and with some further improvements Lake Macquarie will become an important shipping place.

Broken Bay.

Broken Bay, 15 miles north of Port Jackson, forms the mouth of the River Hawkesbury. It has a bold entrance, and on Barranjoey, the southern headland, is erected a fine lighthouse. The bay has three branches, Brisbane Water being the northern, the Hawkesbury mouth the centre, and Pittwater the southern arm. The first-named opens out into a series of lakes, and the town of Gosford, standing at the head of one of them—the Broadwater—is the centre of an extensive shipbuilding district. The scenery at and around Broken Bay is characteristically Australian, and in natural beauty rivals even Sydney Harbour. South of Broken Bay the coast-line is a succession of high cliffs and sandy beaches.

Port Jackson.

The entrance of Port Jackson lies between perpendicular cliffs of sandstone several hundred feet high, and only 74 chains, or nearly 1 mile, apart. Sydney Harbour has been too often described to require further description here. It holds the first place amongst the harbours of the world for convenience of entrance, depth of water, and natural shipping facilities. Its natural beauties are the charm of all who visit its shores, and in the quiet waters of its numerous bays and coves the navies of the world might securely rest. The area of water surface of the harbour proper is 15 square miles, and the shore-line is 165 miles in circuit. At the South Head is erected a splendid light-house, fitted with an electric arc light, the power of which is scarcely exceeded on any coast. On the shores of Port Jackson stands Sydney, the metropolis of New South Wales and the mother city of the Australias. The city and its suburbs occupy 100 square miles, and have within their boundaries about 381,730 people.

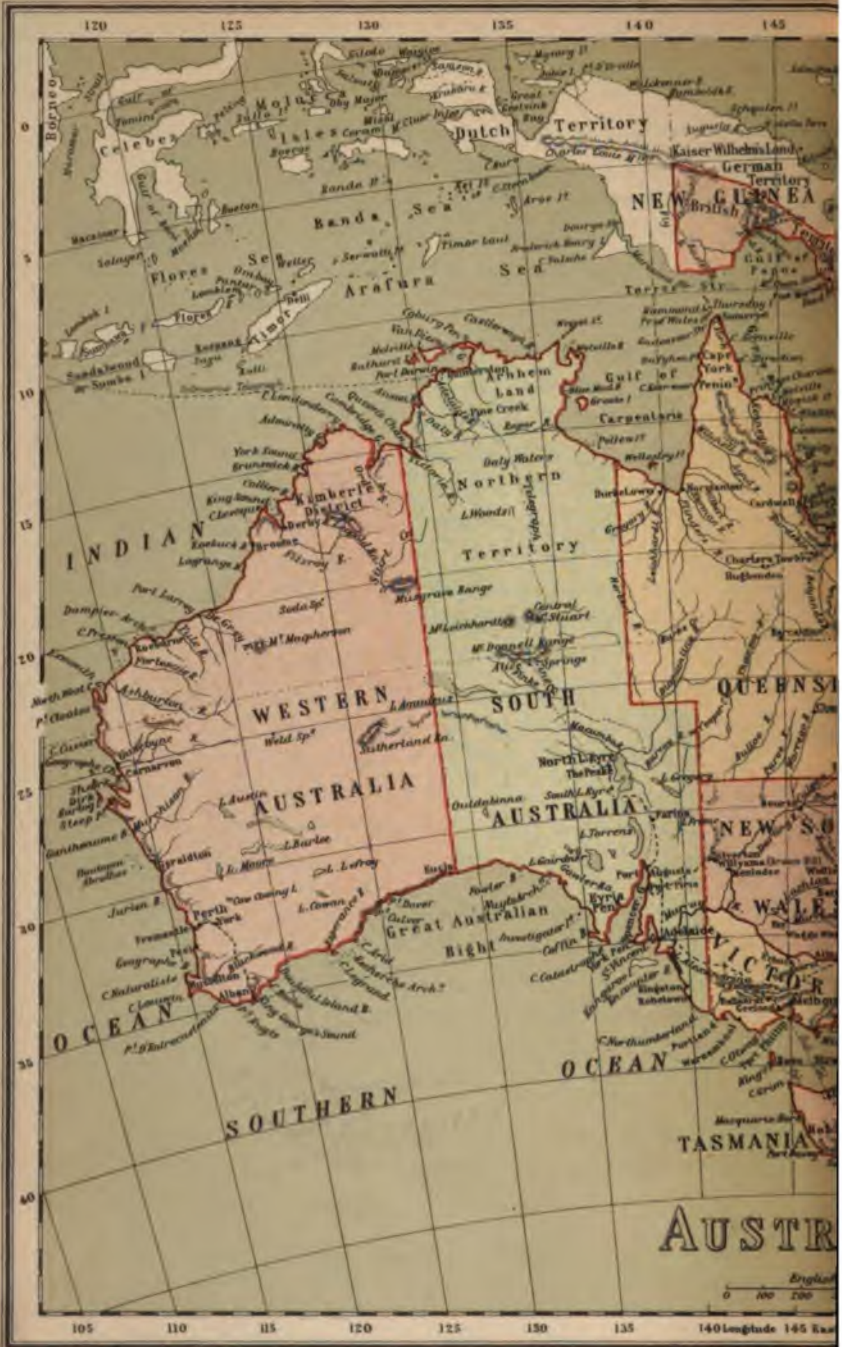
Botany Bay.

Botany Bay, the first port entered by Captain Cook, the discoverer of this territory, lies a few miles south of Sydney. It covers an area of 24 square miles, and receives the waters of several small rivers. The bay has very little trade, by reason of its proximity to Sydney, but it is frequented by craft in search of shelter during stress of weather.

Wollongong, Kiama, and Ulladulla are small harbours which have been snatched, as it were, from the sea, and are important shipping places.

Jervis Bay.

About 80 miles to the south of Sydney the coast is broken by an important inlet called Jervis Bay. Its entrance is 2 miles



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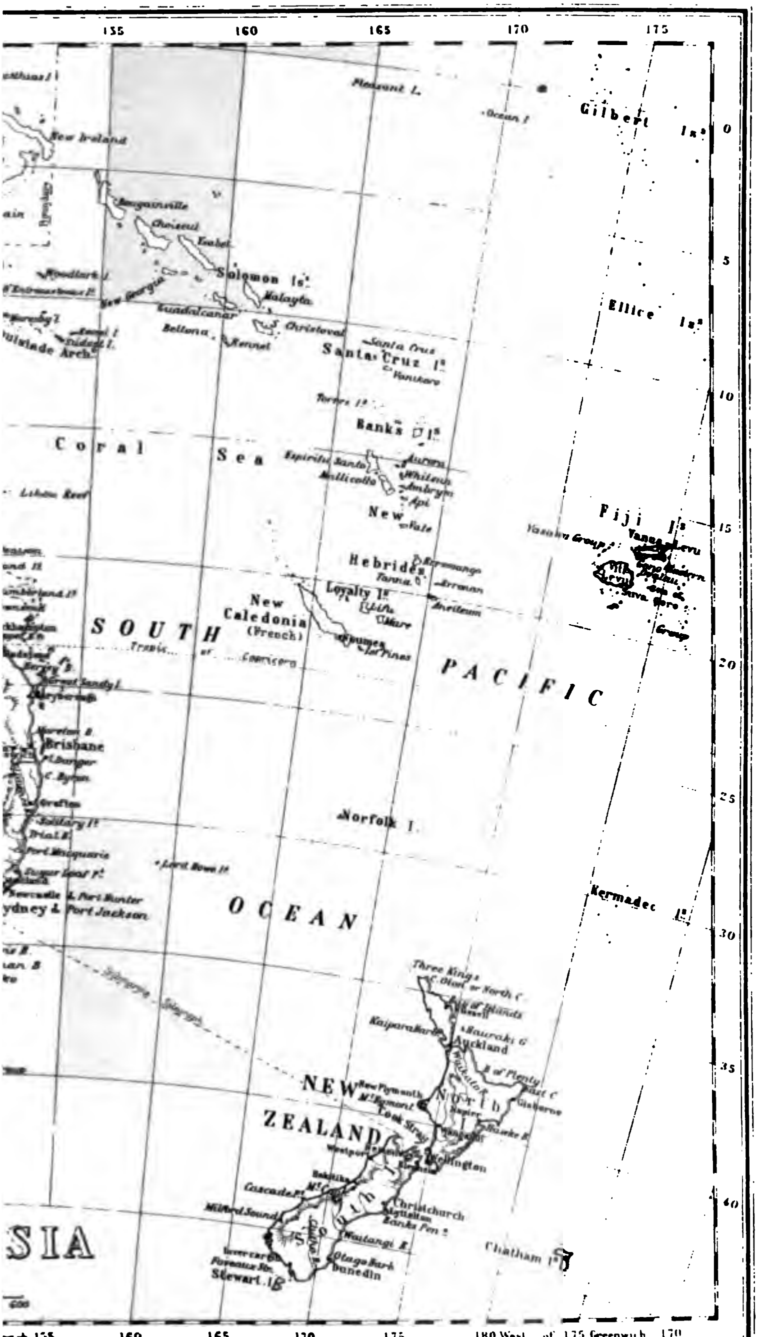
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Pleasant I.
Ocean I.
Gilbert Isᵈˢ
New Ireland
Bougainville
Choiseul
Isabel
Solomon Isᵈˢ
Malayta
Woodlark I.
New Georgia
Guadalcanar
Bellona
Rennel
S. Christoval
Louisiade Archᵒ
Ellice Isᵈˢ
Santa Cruz
Santa Cruz Iˢ
Vanikoro
Torres Iˢ
Banks Iˢ
Coral Sea
Espiritu Santo
Mallicollo
Aurora
Whitsun
Ambrym
Api
New Hebrides
Vate
Erromango
Tanna
Aneiteum
Lihou Reef
Fiji Iˢ
Yasawa Group
Vanua Levu
Viti Levu
Taviuni
Suva
Lau Group
New Caledonia (French)
Loyalty Iˢ
Lifu
Mare
Noumea
I. of Pines
SOUTH PACIFIC
Tropic of Capricorn
Sandy I.
Maryborough
Moreton B.
Brisbane
C. Byron
Grafton
Solitary Iˢ
Port Macquarie
Sugar Loaf Pᵗ
Newcastle & Port Hunter
Sydney & Port Jackson
Lord Howe Iˢ
Norfolk I.
OCEAN
Kermadec Iˢ
Three Kings
C. Otou or North C.
B. of Islands
Kaipara Harbᵗ
Hauraki G.
Auckland
B. of Plenty
East C.
Gisborne
New Plymouth
Mᵗ Egmont
Cook Strait
NEW ZEALAND
North I.
Napier
Wellington
Westport
Hokitika
Mᵗ Cook
Cascade Pᵗ
Milford Sound
South I.
Christchurch
Banks Pen.
Waitangi R.
Otago Harb.
Dunedin
Foveaux Str.
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wide, and on its bosom safe anchorage may be found in any part. It is surrounded by rich agricultural and mineral country, as yet, unexploited. Nature has been so bountiful to the country as a whole, that particular districts, undoubtedly rich, must remain for a while undeveloped, through want of labour and capital to open them up, and ports which would in older countries be prized for their convenience and capacity, here remain unused, save as refuges in stormy weather.

Bateman's Bay, at the entrance to the Clyde, is an inlet of some importance, and coastal steamers also load produce at the mouths of the Moruya, Tuross, and Bega Rivers.

Twofold Bay.

Twofold Bay is a magnificent sheet of water, near the southern limit of the Colony. Formerly it was the seat of a large whaling trade, now no more. It is well sheltered, and a fine jetty affords ample shipping facilities. Its trade is chiefly with the neighbouring colonies, in produce and live stock, the bay being the nearest outlet on the sea coast for the rich district of Monaro. A railway is planned to connect the port with the table-land and the metropolis, and Twofold Bay promises to become a considerable shipping place in the near future. On its shores is situated the town of Eden.

Coastal Lakes.

Besides the ports and harbours, properly so called, which have been above enumerated, there are several lakes, or arms of the sea, which will, with the development of the resources of the country, become ports of shipment. From Cape Hawke to Port Stephens a chain of lakes extends, communicating with the latter through the Myall River, and covering a large area. The most extensive are Wallis Lake, Myall Lake, and the Broadwater. The country round about is richly timbered, but its resources are still undeveloped. Between Lake Macquarie and Broken Bay is Tuggerah Lake, also an extensive sheet of water. Near Wollongong is Lake Illawarra, of considerable area, but shallow, and towards the south of the colony are Coila and Tuross Lakes, into which the Tuross River discharges.

ISLANDS.

Islands.

No islands of any note belong geographically to New South Wales. The Broughton Islands, lying a few miles northward of the Heads of Port Stephens, are the largest in extent. Solitary Island, situated near the northern part of the coast, between the Bellinger and Clarence Rivers, and Montague Island, 18 miles south-east of the Moruya River estuary, have been selected as the sites for light-houses, but are not otherwise important. Norfolk Island, having an area of 8,607 acres, and also Lord Howe Island, belong politically, but not geographically, to New South Wales. The last-named island has an area of 3,220 acres.

Norfolk Island.

WESTERN WATERSHED.

The Western Watershed.

The western watershed of the Colony is in physical features and geographical character the antithesis of the eastern. Instead of a narrow strip of country shut in by the sea and mountains, intersected by numerous short rivers with a rapid flow, the western watershed forms a vast basin through which the quiet waters of a few great rivers have their long, though uncertain, courses. The rivers of the western region of the Colony all belong to the fluvial system of the Murray, which carries to the Southern Ocean, through the colony of South Australia, the drainage of a watershed immense in extent, embracing the northern portion of Victoria, and the western and larger part of New South Wales, and reaching almost to the centre of Queensland.

The Murray.

The Murray, or Hume, the southern branch of this vast river system, rises in the Snowy Mountains, from which its three principal sources, the Hume, the Tooma, and the Indi descend. The first two of these streams rise on the northern and western slopes of Mount Kosciusko; the Indi, which is really the main river, has a longer course, rising in a gully near the Pilot Mountain, at an elevation of 5,000 feet above the sea. From the confluence of these rivers, the Murray rapidly descends towards the plains below Albury, where it is only 490 feet above sea level, and has still a course of 1,439 miles to run. From Albury downwards the river receives many tributaries on both banks, those from New South Wales being the most important. Above Albury the tributaries are for the most part mountain torrents, carrying to the main stream the melted snows of the Australian Alps. In its lower course, however, the Murray is augmented, through the Murrumbidgee and Darling, by the waters of secondary systems as important as its own.

Ana-branches.

Before being joined by the Murrumbidgee, the Murray receives, from a series of ana-branches, the drainage of a large portion of the country lying between the two main streams. The Billabung Creek runs almost through the centre of the plain spreading between the Murray and Murrumbidgee; in the middle of its course it communicates with the latter river, through Colombo and Yanko Creeks, whilst on the south it feeds the Murray by the channel of the Edward River. The Edward is itself an important stream. It forms with the Wakool and Tuppal Creeks, and many other smaller and less important watercourses, a fluvial system, interlacing the whole country from Tocumwal to the Murrumbidgee junction, which has been justly named Riverina. The Edward and Wakool are together navigable for over 400 miles, as far as the important town of Deniliquin. From its furthest source at the foot of the Pilot Mountain to the town of Albury the Murray has a length of 280 miles. Thence to the Darling River junction its course is 852 miles, and from that point to the sea, below Lake Alexandrina, it is 587 miles in length. The river has thus a total course of 1,719 miles, of which 1,132 are within the colony of New South Wales. The river has been navigated as far as the Ournie gold-field, about 150 miles above Albury, and 1,590 miles from its mouth.

The Murrumbidgee.

The Murrumbidgee has its source at the foot of a hill overlooking the Coolaman Plains, at a height of nearly 5,000 feet above the sea. Its course first shapes itself southward, but near the town of Cooma it takes a sharp curve and runs in a northerly direction until it

Murrumbidgee Basin.

nears Yass. Here it curves again, trending to the west in a line parallel to the Murray, but turning south-west on receiving the Lachlan, it finally joins the main river after a course of 1,350 miles. The area drained by the Murrumbidgee is estimated at 15,400 square miles. In the upper part of its course it receives from both sides numerous rivers and creeks, the most important of which are the Umaralla, Molonglo, and Yass Rivers on its right, and the Goodradigbee, and Tumut Rivers on its left bank. All these rivers flow through mountainous country over a series of plateaux, which from the Coolaman and Coorangorambula Plains to the plains round Gundagai and Wagga successively diminish in height from 5,000 feet to 720 feet and 607 feet above the sea.

The upper valleys, both of the Murrumbidgee and the Murray, are of similar physical aspect. Both rivers are snow-fed, the Murray to a greater extent than its tributaries, owing to the higher elevation of the mountains and plateaux from which it descends. In the lower basins they are also similar in character, and the plains which they drain are amongst the most fertile in the Colony. With an intelligent system of water conservation and irrigation the lower valleys of these rivers would support a large population of agriculturists on land hitherto devoted entirely to sheep pasturing.

The Lachlan.

The chief tributary of the Murrumbidgee is the Lachlan, rising in the main Dividing Range, where also its principal feeders have their source. These are the Boorowa, Crookwell, Abercrombie, and Belubula, all rapid streams, occasionally swollen by melting snow from the table-land. After receiving the Boorowa the Lachlan flows to the Murrumbidgee, through 500 miles of plain country, without receiving any tributary of permanent character. The water-courses which carry off the surplus water from the rich plains on either side of the river, only reach it in time of flood. The total length of the river is 700 miles, and its basin has an area of 13,500 square miles. The country drained by the Lachlan is similar in most respects to that of the Murray and

Murrumbidgee, and with regular rainfall or irrigation, the light red soil and sandy loam of its lower valley would yield abundant returns to the farmer. The lines of demarcation between the Lachlan basin and that of the Murrumbidgee on the south, and the Darling on the north-west, are hardly perceptible on the ground, so flat is the country through which these great rivers flow.

The Darling.

Of all the tributaries of the Murray, the Darling drains the largest area, extending as it does over the greater portion of the western district of New South Wales, and embracing nearly all Southern Queensland. From its confluence with the Murray at Wentworth up to its junction with the Culgoa a few miles above Bourke, the Darling receives only two tributaries, the Paroo and the Warrego, both intermittent, though of vast size in times of flood. For over 1,000 miles this great river holds its solitary course, Nile-like, feeding the thirsty plains of the south with water falling many hundred miles distant on the downs of Queensland. The course of the river is tortuous in the extreme; in many places a narrow neck of land, a mile or two across, separates parts of the river 20 miles distant, if the stream were followed. The Darling presents the phenomenon, not uncommon in Australian rivers, of banks much higher than the plain behind, indeed the river bed itself, though from 30 to 40 feet beneath the bank, is in some places but little below the general level of the country. Successive floods have added to the height of the banks, and have raised the bed of the stream correspondingly.

The Upper Darling.

The Darling has no source under that name, which applies only to that part of the river as far as the Bogan junction. Above this point it takes the name of the Barwon, until its confluence with the Gwydir, then it is known as the Macintyre, and afterwards the main branch receives the name of the Dumaresq. The last-named stream has its source in the Dividing Range, on the summit of the table-land at the extreme north-east of the Colony, not far from the head of the Richmond. The Dumaresq, Macintyre, and Barwon form, however, what might be really called the Upper

Darling, and this appellation would be geographically accurate. The variety of names, by which not only the Darling, but many other Australian rivers are known, is due to the fact that they were discovered in sections, the identity of which was not established until years afterwards, and the sectional names have survived.

Tributaries of the Darling.

The Darling receives, in its upper course, many tributaries, which drain the southern portion of Queensland, but these rivers only flow for a short part of their courses in New South Wales. Chief among them are the Mooni, Narran, Bokhara, Culgoa, Warrego, and Paroo. The principal affluents of the Darling within the boundaries of New South Wales are on the left bank. The Gwydir, Namoi, Castlereagh, Macquarie, and Bogan are the most important. These streams are all of considerable length and similar in character, their upper valleys are on the table-lands, and their lower courses lie through alluvial plains and good pastoral country. The Darling is navigable, in times of freshets, as far as the township of Walgett, 1,758 miles from its confluence with the Murray, thence to the sea the distance is 587 miles, making a total length of navigable water from Walgett to the sea of 2,345 miles, and it therefore ranks high amongst the rivers of the world, as estimated by navigable length. Unfortunately, however, its upper course is open only during part of the year.

Length of navigable water.

If the fluvial system of the Murray and Darling, and their principal tributaries, be considered in the light of the facilities it affords for water carriage, its value will appear not inconsiderable. The Darling River may be made available for navigation for 1,758 miles, from Wentworth to Walgett, the Murrumbidgee and Lachlan combined have 900 miles, and the Murray, from Ournie gold-field to the point where it enters the territory of South Australia, has a length of 1,120 miles. If to this be added the navigable length of the Wakool and Edward, the total distance of river which could be navigated reaches nearly 4,200 miles, in the western district alone, a length nearly twice that of the railways of the Colony.

LAKES OF THE WESTERN DISTRICT.

Western Lakes.

Here and there along the course of the western rivers are found lakes sometimes of considerable dimensions. These lakes are in reality shallow depressions, receiving water from the overflow of the rivers in times of flood, and in return feeding them when the floods have subsided. Lake Urana is the most important in the Murray and Murrumbidgee basin, and Lakes Cowal, Cudgellico, and Waljeers, in that of the Lachlan. Along the Darling are Lakes Poopelloe and Gunyulka on the left bank and Laidley's Ponds and Lakes Pammaroo, Jandoo, and Cawndilla on the right, near Menindie. On the South Australian frontier are Lake Victoria, formed by the overflow of the Murray, and others of less importance. The area of these lakes is undefined, as they vary in size according to the rainfall, sometimes covering vast extents of country, and at others being reduced to the proportions of mere waterholes, whilst in seasons of great drought they are absolutely dry.

PART IV.

Climate.

IT is accepted as an ascertained fact that the temperature of lands in the southern hemisphere is lower than that of countries situated in corresponding latitudes north of the equator; to this general law New South Wales is no exception. The researches of the Government Astronomer of the Colony conclusively confirm this, and show, from the records of temperature extending over many years, that the climate of New South Wales is one of the most temperate and uniform anywhere experienced. Just as the country is divided naturally into three distinct geographical regions, so it is separated into the same climatic divisions, each of which has its characteristic features.

Coastal Region.

The coastal region extends from 28° to 37° south latitude, and if the temperature accorded with that of similar latitudes in the northern hemisphere, Casino and Grafton would resemble the country bordering on the Gulf of Suez, in the Red Sea; Delhi, in India; Ningpo, in China, and New Orleans, in the United States. Such, however, is not the case. Casino has a mean temperature of 67°, only 1° more than that of Messina, in Sicily, which lies more than 9° further from the equator. Eden, which is situated at the extreme south of the Colony, in latitude 37°, has a mean temperature of 60°, which is practically the same as that of Nice and Rome, places respectively 460 and 330 miles further removed from the equator. Not only is the climate of the coastal region more mild in regard to average temperature than the corresponding latitudes in the northern hemisphere, but the range is not as great. This is a very important factor in estimating the healthiness of a country.

As regards Sydney, situated as it is midway between the extreme points of the Colony, in latitude 33° 51′ south, the same truth is apparent. Its mean temperature is 63°, and corresponds with that of Barcelona, the great maritime city of Spain, Temperature of Sydney.

and of Toulon in France, the former being in latitude 44° 22′, and the latter 43° 7′ N. At Sydney, the mean summer temperature is slightly under 71°, and that of winter 54·5°. The range is thus 16·5° Fahrenheit. At Naples, where the mean temperature for the year is about the same as at Sydney, the summer temperature reaches a mean of 74·5°, and the mean of winter is 47·5°, with a range of 27°. Thus the summer is warmer, and the winter much colder, than at Sydney. The greatest temperature in the shade ever experienced in Sydney was 106·9°, the lowest winter was 36·8°, giving a range of 70°. At Naples the range has been as great as 81°, the winter minimum falling sometimes below the freezing point.

Climate of the Coast.

Taking the coast generally, the difference between the mean summer and mean winter temperature may be set down as averaging not more than 24°, a range so small that it will be rarely found elsewhere. The famed resorts on the Mediterranean seaboard bear no comparison with the Pacific slope of New South Wales, either for natural salubrity, or for the comparative mildness of the summer and winter, while the epidemics and pestilences which have devastated those regions of ancient civilization have never made their appearance on these shores.

Climate of table-land.

Passing from the coast to the table-land, a distinct climatic region is entered. On the high southern plateau, at an elevation of 4,640 feet, stands the town of Kiandra, having a mean summer temperature of 54·5°, and a winter temperature of 33°, corresponding with that of Dunfermline, in Scotland, in latitude 56° 5′ N., while Kiandra is in 35° 50′ S. Cooma, in the centre of the Monaro plains, at an elevation of 2,640 feet above sea-level, enjoys a summer as mild as either London or Paris, while its winters are far less severe. On the New England table-land, the climate of Armidale, and other towns, may be considered as nearly perfect as can be found. The yearly average temperature is scarcely 57° while the summer only reaches 69°, and the winter falls to 46°, a range of temperature approximating closely to the famous health resorts in the south of France.

Western Districts.

The climatic conditions of the western districts of the Colony are entirely different from those of the other two regions, and have been often cited as disagreeable. Compared with the equable temperature of the coastal district, or table-land, there may appear some justification for such reputation, but only by comparison. The climate of the great plains, in spite of the heat of part of the summer, is very healthy, and an inspection of the returns of death-rates, both of children and grown persons, given elsewhere, amply bears out this view. The town of Bourke may be taken as an example. Seated in the midst of the great plain of the interior, it illustrates peculiarly well the defects, as well as excellences, of the climate of the whole region. Bourke has exactly the same latitude as Cairo, yet its summer temperature is 5° and its mean 6·5° less than the Egyptian city. New Orleans also lies on the same parallel, but the American city is 4° hotter in summer. As regards winter temperature, Bourke leaves little to be desired. The mean winter reading of the thermometer is 52·3°, and accompanied as this is by clear skies and an absence of snow, the season is both refreshing and enjoyable. The great heat experienced on occasional days in summer, when the thermometer reads considerably over 100° in the shade, is not accompanied by that moisture in the air which at the sea-coast would make a less degree of heat almost unbearable.

Dryness of climate.

It is fortunate for the country that dryness is one of its characteristics; otherwise, instead of being the abode of health, the interior of the Colony would, with abundant rains, have become an impenetrable jungle, the lurking-place of those malarial fevers which devastate so many fair regions of the Old World and America. New South Wales may therefore be compared favourably with any part of the world; and, taking into consideration the comparatively low latitudes in which it is situated, it offers a most remarkable variety of temperate climates. From Kiandra, on the highest part of the great Dividing Range, to Bourke, on the great interior plain, the climate may be compared with that of the

Climate adapted to European race.

region of Europe extending from Edinburgh to Messina, but more generally resembling that of Southern France and Italy. It may therefore be regarded as peculiarly fitted for the habitation of people of European race, embracing, as it does, within its limits, the climatic conditions under which the most advanced races of the world have prospered. The following tables, showing the average meteorological conditions in certain places, fairly represent the whole Colony :—

Temperature, Rainfall, and other Meteorological Conditions of certain Stations in New South Wales.

Town.	South latitude.	Mean temperature.	Mean summer temperature.	Mean winter temperature.	Mean daily range of thermometer in shade.	Highest reading of thermometer in shade.	Lowest reading of thermometer in shade.	Mean annual rainfall.
				Table-land.				
	° ′	°	°	°	°	°	°	in.
Kiandra	35·52	45·0	54·5	33·1	25·4	96·2	-8·0	62·1
Bombala	36·50	50·8	62·8	41·5	26·6	98·4	20·9	29·4
Cooma	36·12	52·2	64·6	41·6	...	107·5	15·0	18·5
Queanbeyan	35·20	53·6	67·2	41·9	16·7	109·0	20·0	23·8
Mt. Victoria	33·36	54·2	65·4	42·3	20·1	105·1	21·8	35·1
Orange	33·18	55·2	67·7	42·3	16·9	99·5	22·2	41·1
Goulburn	34·45	55·3	68·3	44·8	25·8	109·0	18·0	26·2
Moss Vale	34·32	55·3	66·9	43·6	15·9	103·7	26·8	48·8
Armidale	30·34	56·9	69·0	45·9	24·8	100·0	11·2	35·5
Bathurst	33·24	57·2	70·8	45·0	30·3	112·5	3·0	25·0
Tenterfield	29·50	57·5	67·3	46·4	22·3	104·0	16·0	30·9
Inverell	29·48	59·5	73·2	46·1	23·9	105·0	20·0	30·9
Mudgee	32·35	59·8	74·8	47·9	19·4	114·0	26·0	28·0
Forbes	33·27	60·8	74·7	48·7	21·0	110·0	24·0	20·9
Cassilis	32·00	61·0	74·7	47·4	25·6	112·2	22·2	25·9
				Coastal District.				
Eden	37·00	60·3	67·7	51·1	13·9	106·0	36·0	44·6
Wollongong	34·25	62·1	70·0	53·6	14·9	101·9	34·8	38·4
Sydney	33·51	63·2	70·7	54·5	14·0	106·9	36·8	49·2
Maitland	32·47	62·5	73·1	51·4	21·5	112·0	24·0	34·9
Port Macquarie	31·25	63·7	72·4	55·8	15·7	101·3	33·4	63·2
Windsor	33·36	63·8	72·3	52·6	26·1	113·9	21·5	34·5
Newcastle	32·55	63·9	71·9	54·7	17·9	120·0	31·3	50·0
Grafton	29·43	68·3	75·6	56·3	27·8	118·0	21·0	38·2
				Western District.				
Deniliquin	35·32	59·9	73·2	48·5	30·6	121·0	16·0	16·7
Wagga Wagga	35·80	60·2	74·4	46·7	19·7	111·0	20·0	26·1
Dubbo	32·18	60·6	73·3	48·0	25·1	112·9	17·0	20·1
Wentworth	34·80	64·4	77·8	52·1	23·3	119·0	27·2	13·7
Bourke	30·30	65·8	80·3	52·3	20·9	120·0	30·0	18·5

Average Meteorological Conditions of Sydney for each Month from 1859 to 1889.

	Jan.	Feb.	Mar.	April.	May.	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Yearly Mean.
Average reading of barometer at 32° Fahrenheit and mean sea-level	29·932	29·965	30·055	30·080	30·087	30·091	30·124	30·102	30·052	30·002	29·974	29·911	30·015
Mean temperature................	71·8	71·3	69·5	65·0	58·6	54·4	52·7	55·2	58·9	63·5	66·7	70·1	63·2
Average reading of maximum thermometer.	78·4	77·4	75·7	71·2	65·1	60·7	59·3	62·8	66·5	71·0	73·9	77·1	70·0
Average reading of minimum thermometer.	65·2	65·0	63·3	58·7	52·1	48·2	45·9	47·4	51·2	55·9	59·5	62·9	56·3
Mean temperature of sea water	70·0	70·0	70·3	68·1	62·8	58·3	57·0	57·7	60·9	64·8	68·2	71·0	64·9
Greatest monthly rainfall, inches..	10·68	18·56	18·70	25·43	20·85	16·30	11·95	12·77	14·05	24·69	11·13	7·80	Max. 25·43
Least monthly rainfall, inches	0·42	0·40	0·42	0·06	0·18	0·27	0·06	0·04	0·08	0·07	0·14	0·39	Min. 0·04
Average monthly rainfall, inches ..	3·47	5·37	4·47	6·24	5·44	5·21	4·33	2·97	3·04	2·96	3·19	2·51	49·20
Average number of days' rain	13	14	14	13	16	12	12	11	12	13	12	12	154
Average monthly evaporation	4·581	3·501	2·905	2·283	1·698	1·357	1·539	1·787	2·357	3·215	3·916	4·738	33·878
Average monthly ozone...........	4·5	4·6	4·9	5·1	4·7	5·6	5·2	5·0	5·4	5·4	5·1	4·7	5·0

PART V.

Geological Formation.

Classification of rocks.

THE geology of the Colony has been ably treated by various learned scientists, and this work is being continually added to by Mr. C. S. Wilkinson, the present eminent Government Geologist. To the Rev. W. B. Clarke we are indebted for the first systematic classification of the various sedimentary formations found in New South Wales. These were classified by him as follows :—

Palæozoic :	Silurian	
	Devonian	
	Carboniferous	
	Permian.	
Mesozoic :	Triassic	
	Jurassic	
	Cretaceous.	
Cainozoic :	Tertiary	Miocene
		Pliocene
	Post Tertiary	Post Pliocene
		Recent.

Palæozoic formation.

Palæozoic.—This formation extends throughout almost the whole eastern portion of the Colony, the rocks of the upper Silurian age principally occurring on the western watershed of the main Dividing Range, in the country where the Murrumbidgee, Lachlan, and Abercrombie Rivers rise. They appear on the eastern watershed, along part of the coast near Bateman's Bay, and, striking inland, are found in the basin of the Clyde, and the upper valley of the Shoalhaven.

The upper Silurian rocks extend as far north as Mudgee, where they are overlaid by the Carboniferous strata of the Hunter Valley, and by the belt of volcanic rocks extending along the Liverpool Range. They reappear further north, in the upper valley of the Macleay River, on the east slope, and in the basin of the Namoi, on the west of the Dividing Range. The Silurian rocks consist of sandstone, slate, and limestone, and exhibit evidence of metamorphism, particularly in the country around Bathurst and Hill End.

Limestone.

Limestone beds, of considerable extent, are scattered throughout this formation. These are chiefly composed of crinoids and corals which outcrop prominently in the Wellington District, near Molong and Gulgong, at Tuena, and also in the Murrumbidgee District. In the limestone formations are found magnificent caves, such as the Wellington, Wiambene, and Fish River or Jenolan Caves, the fame of which has spread even beyond the confines of Australia. Rocks of the Devonian age also exist near Rydal, where Mr. C. S. Wilkinson has measured a section of strata, showing a thickness of not less than 10,000 feet.

Carboniferous Deposits.

The carboniferous formations occupy the whole valley of the Hunter, and of its chief tributary, the Goulburn, on the east slope of the main range. They are also found on the opposite slope, in the upper valley of the Castlereagh, and along the edge of the great tertiary depression which the Upper Darling drains. They appear also on the south coast, at Bulli and Coal Cliff, extending southwards to Bateman's Bay, and embracing the basins of the small rivers between the Clyde and the Shoalhaven, as well as the lower valley of the last-named river. Cut off by the high coast range, the formation reappears at Marulan and Berrima, again in the valley of the Cox River, at Lithgow Valley, and at Capertee River, thus forming a distinct connection with the great series of the Hunter.

The lower coal measures are included in the upper carboniferous series, and contain many seams of workable coal, some of remarkable thickness. These are situated principally in the lower valley of the Hunter River, comprising amongst others the Greta, Anvil Creek, and West Maitland seams. These seams are over-topped and underlaid by conglomerate and sandstones, of great thickness, the strata of this age being estimated by Mr. Wilkinson to be 10,000 feet thick. The seams in the Newcastle coal-fields, as well as those in the Illawarra and coast districts above and below Jervis Bay, belong to the upper coal measures, in which also are included the Berrima and the Lithgow seams. They appear frequently, as in the case of the last named, at a great elevation above the sea, and owing to their almost horizontal strata are worked with great facility. The coal-bearing strata extend as far as the upper valley of the Castlereagh, thence northward, as already mentioned, along the edge of the great tertiary series, to Queensland, in which colony they reappear at a considerable elevation.

Coal seams.

Mesozoic formation.

Mesozoic.—To this period belong the Hawkesbury and Wianamatta series, which overlay the carboniferous formation of that part of the country through which the Hawkesbury and its principal tributaries flow. It is in this formation that the wonderful gorges of the Blue Mountains, and the beautiful harbours of Port Jackson, Port Hacking, and Broken Bay occur. The rocks are of warm yellow sandstone, and the thickness of the strata is estimated at about 1,000 feet.

The Wianamatta series.

The Wianamatta series extend round the metropolis and cover a space in the shape of an irregular triangle, the angular points of which rest at Picton on the south, Richmond on the north, and Sydney on the east. The beds are composed of fine sedimentary deposits of argillaceous shales, and are of comparatively little thickness. They appear to have been deposited in hollows worn by denudation out of the sandstone, on which they directly rest.

To the Mesozoic period belongs also the basin of the Clarence River, the strata of which consist of sandstone, shales, and conglomerates, intersected by occasional coal seams. The extent of the series, distinctively known as the Clarence, is considerable, stretching as it does along the coast from the Tweed to Red Head, and inland some 50 miles.

Cretaceous formations.

The Cretaceous formations occupy the north-western part of the Colony, extending from the Darling westward, towards the north-west corner. Water-bearing strata have been reached at depths varying from 300 feet to 1,100 feet, and large quantities of water have been obtained. The existence of subterranean water throughout this extensive region has been practically demonstrated, and it remains for the settlers to avail themselves of the stores with which nature has charged her reservoirs in the ages that have long since been counted out.

Artesian water.

Since 1882 the Department of Mines has had at work in different parts of the Colony a number of diamond and other kinds of drills, and water augers. Bores have been put down, wells sunk, and artesian supplies obtained in the cretaceous formations of the counties of Killara, Landsborough, and Barrona, and lately at other points of the north-western portion of New South Wales, particularly in the vicinity of the townships of Bourke and Tibooburra. Several valuable supplies of subterranean water have been obtained recently in other parts of Australia, the most important discovery being the artesian well at Barcaldine, in Queensland, one of the most arid districts on the continent. The water from this well flows out of a 10-inch casing, 35 feet above ground, at the rate of 240,000 gallons per day. This supply was obtained at a depth of 690 feet, and, compared with the magnificent result, at the insignificant cost of £775.

Boring operations.

The boring operations conducted by the Mines Department during 1889 consisted of 14 bores put down with the diamond drill, and five with the water auger. The total depth bored by the diamond drills during the year was 7,853 ft. 4 in., or 438 ft. 5 in. less than the depth bored in 1888. At the same time the average depth of the bores was much greater than that of the previous year, so that in reality a larger amount of work was done. The total cost of boring was 14s. 3¼d. per foot, while the

The Diamond Drill.

earnings of the diamond-drills came to 19s. 8d. per foot, thus leaving a fair profit to the Government after allowing for wear and tear. The diamond-drill was used entirely for boring for minerals. Of the bores made by the water-auger, three were on the road from Milparinka to Wanaaring, one was at Tibooburra, and the other at Milparinka. The total depth bored during the year was 1,448 feet 9 inches, at a total cost of 32s. 7½d. per foot. One of the bores was abandoned temporarily on account of the drought. In two others, depths of 1,025 and 1,113 feet had been reached, and fresh water had been found; but it was expected that artesian water would shortly be met with. The Tibooburra Bore was down 350 feet, and had tapped a large supply of good water, and it was expected to reach the artesian water before sinking to 500 feet. There are already eight artesian springs utilized in the Colony, seven of which are west of the Darling, and one is near Jervis Bay. One of the bores, near Bourke, sunk to a depth of 144 feet, gives 60,000 gallons of water per day. Another, bored to 966 feet, gives a daily supply of 22,400 gallons.

Private enterprise in artesian well-boring.

Important discoveries of underground water have been made by private enterprise. In 1888 the Federal Company put down a bore at Kerribree Station, near Bourke, and at 1,073 feet obtained a yield of 473,000 gallons per day. Artesian water was found in 1889 at Dunlop Station at 880 feet, yielding 600,000 gallons per day—more than the flow of the Barcaldine Well in Queensland. It is impossible to over-value the effects of these discoveries in promoting settlement in the western regions of the Colony.

Cainozoic formation.

Cainozoic.—To this formation belongs the greater portion of the central and western districts of the Colony. It therefore embraces the valleys of the great western rivers, and their chief tributaries. The formation is, however, intersected by a broad belt, chiefly of Silurian rocks, extending across its centre, from the Bogan River towards the Great Barrier Range, on the further side of the Darling. Large patches of Devonian formation are also met with in the same region. Making these deductions, the tertiary formation covers more than one third of the whole Colony. The vast alluvial plains were formed during the Pliocene and Post Pliocene periods. The alluvial deposits are of variable thickness, sometimes shallow, but in the great plains, between the main rivers which intersect the country, the deposits are of very great depth.

IGNEOUS AND METAMORPHIC FORMATION.

Granite formation.

The area occupied by this formation comprises one-eighth of the Colony—the principal rocks belonging to the series consisting of varieties of granite, porphyry, diorite, and serpentine. The granite formation occurs for the most part in the northern and southern masses of the great dividing chains, but is found out-cropping throughout the Silurian deposits, which cover so large a part of the centre of the Colony. Diorite and basalt occur principally in the country between the Macleay and Manning Rivers, and on both slopes of the Liverpool Range, between the upper waters of the Namoi and Macleay, and divide the upper Silurian and Carboniferous deposits of the eastern and western watersheds. Serpentine is found scattered in different parts of the Colony, chiefly at Gundagai, Bingera, Lucknow, and Port Macquarie. The granites, porphyries, and diorite rocks have been recognised as belonging to the Palæozoic age, whilst the volcanic rocks, basalts and others are contemporaneous with the tertiary series.

PART VI.

Mines and Minerals.

THE progress of the Colony during the first sixty years of its history, viewed in the light of later events, seems painfully slow, and somewhat uncertain. Yet the earlier colonists must have been conscious of the vast heritage destined to become the fortune of Australia, for on no other supposition can their sacrifices and exertions be understood. To the nations of the old world this was practically an unknown land, and it was not till the story of the gold discoveries was noised abroad that the importance and possible future of Australia were in any way realised.

Gold-mining.

Immigration due to gold discovery.

Gold-mining was but for a brief period the leading industry of these colonies, even in the wonderful years which succeeded the memorable discovery of Hargraves. Now, amongst the minerals obtained in New South Wales, it yields in importance to coal, silver, copper, and tin; whilst compared with that of pastoral and agricultural produce the value of gold procured is inconsiderable. The discovery of gold, nevertheless, made Australia a nation, for the current of immigration which set southward on the presence of the precious metal becoming known has never ceased. Thousands of men in the prime of life, attracted to these shores by the hope of fortune easily acquired on the fields of the Turon and Bendigo, seeing patient industry everywhere rewarded, remained to share the general prosperity, and those who came to dig for gold readily turned their attention to their former, but less exciting, pursuits.

New South Wales less affected by gold discovery than Victoria.

The settlement of New South Wales has not been affected by the gold discovery to the same extent as that of Victoria, yet the number of persons engaged in actual search for the precious metal was at one time considerable. This number has gradually decreased, as the fields have been despoiled of the treasures contained in their easily worked alluvial deposits. The abandonment of a gold-field is not, however, always a loss to the country. After the excitement has died out, the digger makes room for the agriculturist, and resources of a more permanent character are developed, in parts of the Colony, which, but for the prospector, would have been unknown, and, but for the farmer, would have remained a wilderness.

Modern system of gold-mining.

Gold-mining now requires the expenditure of capital for the erection of plant and gold-saving machinery; and the miner, whose stock-in-trade of gold-digging appliances consisted solely of a pick, a shovel, and a tin-dish, has had, in the great majority of instances, to seek other fields of labour. Still the mining industry of New South Wales is in a very flourishing condition, and maintains in employment a fair proportion of the people of the Colony. Many of the gold-miners have turned their attention to the silver, copper, and tin mines, and the coal and shale mines find occupation for large numbers. At the end of 1889, 205,541 acres of Crown lands were held under lease to mine for various minerals, and 53,924 acres were held under application to lease. There were 235 permits to dig and search for gold, under section 45 of the Act of 1884, and 91 under section 7. There were also 82 permits to search for minerals in conditional leaseholds, under section 98. There had been 22 applications for permits to search for gold and other minerals within conditional leases, under the Mining Act of 1889, which came into force at the end of September. Only two of these applications had been dealt with at the end of the year.

Number of persons engaged in mining.

The following table gives the approximate number of persons actually engaged in the principal departments of mining during each of the past seven years :—

Persons engaged mining for—	1883.	1884.	1885.	1886.	1887.	1888.	1889.
Gold	6,750	6,548	5,911	6,767	6,060	8,278	10,192
Silver and silver lead	*	45	929	1,297	1,670	4,215	6,587
Copper	1,913	1,746	1,000	622	503	1,214	542
Tin	4,100	2,850	3,395	2,814	3,188	3,499	1,234
Coal	5,481	6,227	7,097	7,847	7,998	9,301	10,277
Shale	293	116	324	100	120	253	138
Total	18,537	17,532	18,656	19,447	19,539	26,760	28,970

* No estimate made.

There were also 47 men engaged in mining for bismuth, 90 iron-miners at Lithgow, and 77 men mining for various other minerals, making a total of 29,184 miners at work in 1889, representing with their families a population of about 138,000 persons, directly dependent upon mining for a livelihood.

Quantity and value of mineral products of the Colony.

The summary hereunder shows the quantity and value of the products of the various minerals since their first discovery, as well as the quantity won in the year 1889. It will be seen that the Colony has produced various minerals of the total value of over seventy-five and a half millions sterling :—

Minerals.	During the year 1889.		To the end of the year 1880.	
	Quantity.	Value.	Quantity.	Value.
	oz.	£	oz.	£
Gold	119,759	434,070	10,092,356	37,614,887
Silver	416,895	72,001	3,714,996	751,555
	tons.		tons.	
Coal	3,655,632	1,632,849	46,803,983	22,787,156
Shale	40,561	77,667	556,682	1,234,449
Tin	....	207,670	....	5,362,643
Copper	....	122,444	....	3,278,621
Iron	....	....	....	265,465
Antimony (metal)	66	3,344	557	73,501
" (ore)	155		3,548	
Bismuth	42	11,349	165	35,836
Silver lead ore	81,545	1,899,197	140,242	4,168,397
Lead (pig)	523	6,711	523	6,711
Oxide of iron	489	1,329	489	1,329
Sundry minerals	....	1,707	....	44,769
Total value	....	4,470,338	....	75,625,319

METALLIC MINERALS.

Gold.

Gold.—Amongst the metallic minerals found in the Colony, gold occupies a foremost place, both on account of the quantity which has been, and is now being, raised, and of the influence which its discovery has had on the settlement of the country. The date of the discovery of gold in New South Wales was for a long time the theme of much controversy, and the question as to the original discoverer, long disputed. It is now agreed, however, that the existence of gold was known to the authorities during the early days, when the Colony was a convict settlement, but for obvious State reasons the matter remained secret. The first authentic record of the discovery of gold is contained in an extract from Assistant Surveyor James McBrian's Field-book, bearing date 16th February, 1823, in which the following note appears:—"At 8 chains 50 links to river, and marked gum-tree—at this place I found numerous particles of gold in the sand and in the hills convenient to the river." The river referred to is the Fish River, at about 15 miles from Bathurst, not far from the spot to which the first gold-rush was made twenty-eight years afterwards.

First mention of gold.

In 1839, Count Strzlecki found gold in the Vale of Clwydd, and communicated the discovery to Governor Gipps, but he was requested to keep the matter secret, lest the knowledge of the existence of gold should imperil the safety and discipline of the settlement. The Rev. W. B. Clarke also found gold in 1841 in the Macquarie Valley and the Vale of Clwydd, and expressed his belief that the precious metal would be found abundantly dispersed throughout the territory.

Actual discovery of payable gold.

But it was not until the year 1851 that payable deposits were proved to exist in New South Wales, and this important discovery was due to Mr. E. Hammond Hargraves, who, on his return some time previously from California, pointed out to the Government the localities in which he had found payable deposits of alluvial gold, viz., at Lewis Ponds and Summer Hill Creek, in the districts of Bathurst and Wellington. Prospecting operations followed in the neighbourhood, with the result of which every one is now familiar. A few weeks later rich deposits were discovered at Ballarat, Mount Alexander, and other gold-fields, in Victoria; and the world witnessed a gold rush from all parts of the earth to these colonies, similar to that which some years before had taken place to California. The probable effects of the movement were not clearly seen at the time, either here or in the United Kingdom, but the result has been the creation of states, whose future is surrounded with the brightest promise.

Alluvial gold.

Native gold is the only true mineral species of gold which has, so far, been found in New South Wales, and was first met with in easily worked alluvial deposits. Alluvial diggings have always attracted the greater number of miners, as the precious metal is dug out without costly appliances. But, however rich they may be, these deposits are very soon worked out, for their area is generally of limited extent. The miners engaged in testing alluvial deposits for gold form a floating population, ready at any moment to migrate from one colony to another. In the alluvial deposits gold is found associated with a variety of minerals; it also occurs in the shape of grains and nuggets, water-worn in appearance, and some of considerable size. Though New South Wales has not yielded nuggets of so extraordinary a size as those found in the neighbouring Colony of Victoria, some very splendid specimens of that gold formation have, nevertheless, been unearthed at various times.

Remarkable nuggets and their value.

Thus, in July, 1851, a mass of gold was found on the Turon River gold-fields which weighed 106 lb., or 1,272 oz. In November, 1858, at Burrandong, near Orange, another nugget was found which, when melted at the Sydney Mint, gave 1,182 oz. 6 dwt. of pure gold, of the value of £4,389 8s. 10d. A third nugget, called the Brennan, was sold in Sydney in 1851 for £1,156. In 1880 and 1882, several nuggets which were unearthed at Temora weighed from 59 to 139 oz., and in 1887 nuggets were found by fossickers in various parts of the country, four of which, weighing respectively 357 oz., 200 oz., 47 oz., and 32 oz., were obtained at Hargraves; and another, weighing 30 oz., at Limestone Creek. The Jubilee nugget, weighing 347 oz., was also discovered in that year at Maitland Bar, in the Mudgee District, and was worth about £1,400.

Further discoveries probable.

Although the alluvial deposits discovered in the early days have been practically abandoned, and are considered as worked out, there is ample evidence that the surface of the country has been merely scratched. The search for gold has been vigorously prosecuted for more than thirty-six years; but new gold-fields and fresh deposits are nevertheless being continually discovered in localities supposed to have been thoroughly examined. The gold formation is very widely diffused throughout the Colony, as may be gathered from the fact that the gold-fields of Albert, Delegate, and Ballina are between 600 and 700 miles distant from each other; and it has been estimated that the extent of country covered by formations in association with which gold always occurs, exceeds 70,000 square miles, whilst the precious metal has also been found in formations where its presence was never suspected. A considerable portion of this area, equal to nearly one-fourth of the whole surface of the Colony, has never been touched by the pick of the miner.

Want of appliances in early days.

It is well-known to the mining public that many mines which gave promise of handsome results were abandoned in the early days, simply because the appliances at hand were not sufficiently powerful or well directed to save the gold contained in the foreign matter with which it was found associated. At Wattle Flat, on the Turon River, and at many places on the older gold-fields, gold was found in the great deposits of iron pyrites, which have since proved to be in a very high degree payable; but these claims, when apparently exhausted, were abandoned some years ago, the miners lacking the necessary knowledge or skill to obtain from the pyrites the whole of the gold they contained. Improved methods of extraction have since been invented and a rich harvest awaits the skilled miner who shall bring to bear upon the development of this industry, modern knowledge, and appliances such as are being successfully employed in other countries.

Formation in which gold occurs.

Gold is also found in quartz-veins, occurring in older and metamorphic rocks, and even more frequently in argillaceous slates, chloritic, and talcose schists, as well as granite and porphyry. Vein gold is associated more commonly with iron pyrites, though found with copper and silver ores, and occurring also in serpentine and asbestos. But the extraction of gold from quartz-veins requires the erection of extensive machinery and gold-saving appliances, involving an outlay of capital such as the ordinary miner seldom possesses. Quartz-mining is generally carried on by companies, many of which regularly pay handsome dividends to their shareholders.

Richness of gold veins.

Some idea of the exceeding richness of many of these gold veins may be gained from a few particulars relating to the yield from various mines at Hill End, which were recorded during 1873. In January of that year 1·02 cwt. of gold was raised at Beyers and Holtermann's mine from 10 tons of quartz, and a slab of vein stuff and gold from the same mine, weighing 630 lb., and estimated to contain £2,000 worth of gold, was also exhibited. Many other similar rich blocks were also shown. The Mint returns for the gold obtained in this mine during 1873 from 415 tons of vein stuff were 16,279·63 oz., value £63,234 12s. Krohman's Company, also at Hill End, raised during the same year 436 tons 2 cwt. of stone, for which the Mint returns were 24,079 oz. 8 dwt. of gold, value £93,616 11s. 9d.

Gold in coal measures.

Gold has been found in the coal measures, and carboniferous strata. The Rev. W. B. Clarke detected it in the Hawkesbury sandstone formation, on the north side of Sydney Harbour, and he also mentions that it is distributed through the sand at the mouth of the Richmond River. Along the southern part of the coast of New South Wales gold has been found near the shore in the sand washed by the waves of the Pacific Ocean, whilst at Bermagui, and in the district extending between Moruya and Eden, important discoveries of the precious metal have also been made. It would be impossible to name every part of the colony in which gold is found, as it appears throughout the whole territory, and there is ample evidence that deposits exist which will offer to the prospector or the miner a profitable field of employment for many years to come.

Weight and value of gold coined and exported.

The following table shows the quantity and value of the gold coined and exported yearly since 1851 :—

Year.	Weight.	Value.	Year.	Weight.	Value.
	oz.	£		oz.	£
1851	144,120·88	468,336	1872	424,100·23	1,634,821
1852	818,751·93	2,660,946	1873	360,849·97	1,389,705
1853	548,052·99	1,781,172	1874	270,710·12	1,038,844
1854	237,910·70	773,209	1875	229·385·55	881,480
1855	170,145·73	613,148	1876	155,166·37	581,689
1856	183,946·36	666,155	1877	122,619·24	463,130
1857	161,043·26	616,712	1878	117,977·88	423,184
1858	280,557·93	1,082,865	1879	107,640·38	399,187
1859	323,984·02	1,237,662	1880	116,750·52	434,641
1860	381,613·96	1,445,158	1881	145,532·05	550,111
1861	459,879·26	1,771,855	1882	129,233·28	491,594
1862	616,909·71	2,360,383	1883	122,256·58	452,611
1863	467,399·05	1,791,534	1884	105,933·43	390,229
1864	341,954·12	1,304,735	1885	100,667·16	366,388
1865	364,540·63	1,390,803	1886	98,446·27	355,600
1866	287,534·29	1,103,246	1887	108,101·46	386,771
1867	269,407·35	1,043,458	1888	85,295·49	308,821
1868	258,773·41	1,003,002	1889	118,947·54	431,138
1869	252,130·14	967,625			
1870	240,401·86	916,409			
1871	321,468·70	1,232,011	Total	10,050,139·80	37,210,368

Decline in gold production.

This table shows that the production of gold in New South Wales has, since the year 1872, considerably decreased. This decrease is explained by the fact that the rich alluvial deposits discovered in the early days have been exhausted, and that other resources of a more permanent nature are being developed. The latter offer steadier employment to the labouring classes, without, it is true, the chance of accumulating rapid fortunes, but with more security against loss.

Alluvial gold-mining.

The principal seats of alluvial gold-mining are the Bathurst and Mudgee districts, and the country watered by the various feeders of the Upper Lachlan, and also in the Tumut and Adelong and Braidwood districts. In 1880, the Temora gold-fields, in the Murrumbidgee district, about 30 to 40 miles from the inland town of Wagga Wagga, were discovered, and were for some years in a flourishing condition. The district is now drifting from mining into an important agricultural settlement. In the north of the Colony, in the New England district; on the coast, in the county of Gloucester; and in the extreme north-west, at Mount Poole and Mount Browne, Milparinka and Tibooburra, the gold-fields sustain a considerable population of miners. The system of hydraulic sluicing is adopted in only two or three mines in the New England district, and at Kiandra, on the southern table-lands, where extensive reservoirs have been formed, and the face of the rocks attacked in various places.

Quartz-mining.

The principal quartz-veins are situated near Bathurst, Armidale, Hill End, and in the Mudgee and Cudgegong gold-fields, the last-mentioned had, up to the end of 1889, already yielded 1,099,808 oz., or over 33½ tons of gold, valued at £4,267,469. The geological surveyor, who examined this field in 1886, reported that its resources are far from being exhausted. At Adelong, Tumut, Jindera, and near Gundagai, reefs are also profitably worked, as well as on the south coast of the Colony and in the north-western district. A promising gold-field was opened up at Peak Hills, about 45 miles from Dubbo, towards the end of 1889.

Revival of quartz mining in 1887 and 1888.

Much enterprise has been shown during the last three years in the search for gold; and quartz-reefs have been opened up in many parts with profitable results. Old workings, which had been abandoned years ago under a prevailing idea that they were valuable only on the surface, and which had scarcely, in any instance, been tested to a greater depth than 200 feet, have been reopened with very encouraging results. This is principally the case at Ironbarks and at Lewis Ponds, the latter district having since proved as rich in silver as in gold deposits. In the country surrounding the great copper-mines of Cobar, Nymagee, and Mount Hope, between the Bogan and the Darling Rivers, reefs have been recently discovered; the prospects thoroughly justifying the outlay of capital for the development of these mines, some of which were successfully floated in 1888 in the Melbourne market, considerable sums being spent in the erection of machinery for the treatment of the quartz, the results of which are only now beginning to appear. From the extreme west of the Colony the reports of the mining wardens are equally encouraging, while in the Tumut and Adelong, and other southern mining districts, much enterprise is being exhibited in the search for the precious metal. In the New England District the gold-reefs of Hillgrove in the neighbourhood of Armidale continue to attract considerable attention. A large population has already settled in that district, and several important discoveries have been made. It appears to have been proved that these veins greatly resemble in character the reefs found in Victoria. They are in reality true fissure veins, and the permanency of the lode and the evenness of the average yield of gold per ton, seem to be established beyond doubt. The Parkes, Forbes, and Young districts have also largely increased their yield.

Decline of alluvial mining.

An important feature of the gold-mining industry of late years is that the number of persons employed in alluvial mining and the revenue derived from this source, have diminished considerably, whilst quartz-mining is more and more becoming a permanent industry, the returns from that source being greater in the last three years than for a long period.

Composition, colour, and specific gravity.

The gold found in New South Wales is never absolutely pure, always containing traces of other metals, such as copper, iron, and bismuth, and often a fair percentage of silver. To the presence of the latter its light-yellow colour is due. New South Wales gold is generally lighter in colour than Victorian gold, but of a deeper yellow than that found in the fields of Southern Queensland; its specific gravity averages about 17·5.

Authority to dig.

The authority to dig for gold costs only 10s. a year, and entitles its possessor not only to take up ground for mining, but also to occupy, in a mining township, a ¼ acre, or, outside a town, 1 acre of land for a business site.

Extent of mining enterprise.

In 1889, 1,345 applications were made for auriferous land, comprising an area of 11,305 acres. The steam-engines employed in quartz-mining numbered 187, with an aggregate of 2,967 horse-power. There were also 68 crushing-machines, and 830 stamp-heads. In alluvial gold and tin mining there were employed 30 steam-engines, whose aggregate equalled 272 horse-power. The value of the machinery employed in gold-mining is estimated at £396,481. During the year 1889 the number of persons more or less regularly employed, in various parts of the Colony, in gold-mining was 10,192, of whom 9,632 were Europeans and 560 Chinese. There were 5,063 persons engaged in quartz-mining, and 4,569 in the alluvial diggings.

Gold sent to Sydney Mint.

The quantity of gold, the produce of New South Wales, received at the Sydney Mint for coinage, amounted to 114,486·29 oz., of the gross value of £414,027, the average price being £3 12s. 3d. per ounce.

Coinage of gold in Sydney.

The figures for 1889 show an increase of 31,595 oz. when compared with those of the previous year, which is very satisfactory on the whole. It must always be borne in mind that the results of quartz-mining are, in few cases, immediately seen. Much patient labour and the expenditure of a large amount of capital must take place before payable gold is obtained, and the leases taken up in 1888 are only now beginning to show a return for the time, labour, and money which have been bestowed upon them. The average weight of gold obtained by each miner in 1889 was 11 oz. 15 dwt., valued at £42 11s. 9½d.; this average is better than that of the preceding year. The average wages paid to miners may be taken as £100 per annum, compared with earnings which do not amount to half this sum. It is therefore evident that the employment of the digger is intermittent, and that many of the gold miners follow other pursuits during a portion of the year.

Yield of alluvium.

Attempts have been made to ascertain as far as practicable the average yield per ton of alluvium treated, and per ton of quartz crushed, for the whole Colony. The following table shows the results obtained from the treatment of certain parcels of alluvium in 1889 in three districts; the yield will certainly appear unsatisfactory, but the statement embraces such a very small proportion of the total quantity treated, as to be of comparatively little value for statistical purposes, and is only given because fuller details are wanting:—

District.	Quantity.	Average per ton.	Yield of Gold.
	Tons.	oz. dwt. gr.	oz. dwt. gr.
Bathurst	200	0 7 0	70 0 0
Lachlan	4,454	0 14 12	3,230 0 0
Southern	1,110	0 11 4	620 0 0
	5,764	0 13 14	3,920 0 0

Yield from quartz.

The following table shows the average yield of gold obtained from certain parcels of quartz crushed in several of the mining districts.

District.	Quantity.	Average per ton.			Yield of Gold.
	Tons.	oz.	dwt.	gr.	oz.
Bathurst	4,901	1	8	0	6,859
Tambaroora and Turon	1,345	1	6	3	1,758
Lachlan	9,069	1	1	6	9,647
Southern	5,780	0	13	19	3,990
Tumut and Adelong	500	1	6	0	650
Peel and Uralla	10,531	3	1	15	32,449
Hunter and Macleay	235	0	17	0	200
Clarence and Richmond	266	1	2	22	305
New England	2,106	0	9	15	1,015
Mudgee	1,736	0	15	9	1,336
Cobar	3,136	0	9	18	1,534
	39,605	1	0	2	59,743

Accidents in gold mines.

The number of fatal accidents in gold-mines during the year 1889 was larger than in the previous year—five men lost their lives in auriferous quartz-mining, and three in alluvial workings. There were also 12 non-fatal accidents in quartz-mines.

Total production of gold in Australasia.

From the date of the first discovery of payable gold, in 1851, to the end of the year 1888, the quantity of gold produced in the Australasian colonies represents a total weight of 83,611,139 oz., extracted in the short space of thirty-seven years, and the value of this production is estimated, on the authority of the returns of the Sydney Branch of the Royal Mint, at the enormous sum of £328,274,845. The share of each colony in the production of this wealth is given hereunder :—

Colony.	Weight.	Value.
	oz.	£
New South Wales	9,931,192	36,779,230
Victoria	55,635,959	222,543,834
Queensland	5,913,919	21,475,584
South Australia	248,213	891,612
Tasmania	532,893	2,031,520
New Zealand	11,348,963	44,553,065
	83,611,139	328,274,845

Gold has been discovered in Western Australia, and reefs and alluvial deposits have now been worked for two or three years, but the value of the precious metal extracted has not been ascertained.

Silver.

Silver.—Up to the year 1882 the quantity of silver raised in New South Wales was very small, but in that and the following years extensive discoveries of this metal, associated principally with lead and copper ore, were made in various parts of the Colony, notably at Boorook, in the New England district, and, later on, at Sunny Corner, near Bathurst, and at Silverton, on the Barrier Range, in the western district. Unfortunately smelting operations in the latter district were retarded, owing to the serious drought which prevailed during the two years following the discovery of the lodes. In 1883 and 1884, however, the principal difficulties were surmounted; smelting furnaces were erected on the most modern principle, both at Sunny Corner and at Silverton, and extensive shipments of the metal were made.

The Broken silver mines.

The field of Silverton has since proved to be of immense value. Discoveries have been made along the Barrier Range at Broken Hill, Umberumberka, The Pinnacle, and many other points; and the fame of the Silverton mines has spread over the whole world. The yield of minerals in this district in 1889 showed an increase of nearly three-quarters of a million over those of 1888, while the machinery employed is valued at over £220,000.

Barrier Ranges and Broken Hill silver-lead mines.

The argentiferous lead ores of the Barrier Ranges and Broken Hill districts of New South Wales have, more than any other, attracted the attention of capitalists. This rich silver-field, which was discovered in 1883 by Charles Rasp, a boundary-rider on Mount Gipps Run, extends over 2,500 square miles of country, and has developed into one of the principal mining centres of the world. It is situated beyond the river Darling, and on the confines of the neighbouring Colony of South Australia. Numerous leases have been taken up, and many ventures floated into public companies, giving rise to a large amount of speculation in shares in the mining exchange of Silverton, and the capital cities of the Australian colonies, recalling the old days of gold discoveries. In the Barrier Range district the lodes occur in silurian metamorphic micaceous schists, intruded by granite, porphyry, and diorite, and traversed by numerous quartz-reefs, some of which are gold-bearing. The Broken Hill lode is the largest as yet discovered. It varies in width from 10 feet to 200 feet, and may be traced for several miles, the country having been taken up all along the line of the lode, and subdivided into numerous leases, held by mining companies and syndicates.

Broken Hill Proprietary Company.

The Broken Hill Proprietary Company hold the premier position. They have erected on their lease a complete smelting plant on the latest and most approved principles, and have enlisted the services of competent managers, whose experience has been gained in the celebrated silver-mining centres of the United States. From the commencement of mining operations in 1885 to the beginning of June, 1890, the Company treated 412,316 tons of silver and silver lead ores, producing 16,897,076 oz. of silver and 68,475 tons of lead, valued in the London market at £3,782,964. The Company have paid dividends to the amount of £1,624,000, and bonuses amounting to £592,000, besides the nominal value of shares from the several "Blocks," totalising about £3,960,000, the principal mine still remaining in their hands. During the great silver boom which occurred in the early part of 1888, the shares of the Broken Hill Proprietary Company originally issued at £20 were quoted at £396, representing a total of £6,336,000. Now that the market has reached a more reasonable state the mines which are grouped around this huge property still represent a capital value of nearly £12,480,000.

Silverton and Thackaringa.

Besides the mines at Broken Hill, there are very valuable workings at Silverton and Thackaringa in the same district; the value of silver and ore exported during 1889 from the Barrier country, was silver, £291,534, and argentiferous lead valued at £1,433,679, making a total value of nearly a million and three-quarters. As a natural consequence of the success of these mines, numbers of miners were attracted to the district, and the population, which in 1883 consisted of only a few station hands, had risen to an estimated total of 18,000 souls at the end of 1889. The proximity of Silverton and the Barrier district to the Colony of South Australia could not fail to attract the attention of the business people at Adelaide, who were not slow to realise the advantages which they would obtain by attracting towards their capital the traffic of a region of such immense wealth. The railway system of South Australia was immediately extended to the border, and in the Colony of New South Wales a tramway was laid down, thus connecting the town of Silverton, and the mines of Broken Hill, with the railway to Adelaide and Port Pirie, in the latter instance reducing the land carriage by some 70 to 80 miles.

Valuable silver discoveries.

The success of the Barrier Ranges Mines gave rise throughout New South Wales to a veritable silver fever, and parties of miners were soon abroad in all directions searching for the precious mineral. Their energy was in many instances rewarded by the discovery of payable lodes. Thus at Lewis Ponds, Tuena, Mount Costigan, and many other places between Goulburn and Orange, huge deposits of silver-bearing ore were discovered.

Sunny Corner.

The Sunny Corner Company, which had paid handsome dividends in 1886, and yielded £160,000 worth of silver, suffered a temporary check in 1887, but has since recovered to some extent. In the Tumut and Monaro districts numerous argentiferous lodes were found, and great excitement was the consequence. The discovery of silver lodes, said to be of great richness, at White Rock, near Fairfield, in the New England district, followed by that of auriferous and argentiferous deposits in the neighbourhood, brought up the excitement to fever heat, and considerable sums of money were asked for these mines, which were offered to the public at prices that may, without exaggeration, be termed fabulous. The closing months of 1887, and the early part of 1888, witnessed all over Australia an extravagant silver mania, which has since considerably subsided, to the detriment of many who were induced to invest their capital in speculative properties. Numerous companies were formed, whose shares, notwithstanding the fact that

Silver mania.

work had not in many instances been carried out beyond the initiatory and prospecting stage, became a medium of speculation which could not but end in disaster. But this refers principally to undeveloped mines, and properties whose value it is difficult to ascertain. Old and fairly established mines continue to prosper, notwithstanding the depression in the share market, and the coming years will doubtless witness a very large increase in the production of silver and silver ores in New South Wales. In most cases great difficulty is experienced in reducing refractory ores, and it is found more profitable to ship the ore to the Continent of Europe in a concentrated state, which fact explains the anomaly exhibited by the figures showing the value of silver produced in 1887, 1888, and 1889, as compared with the production of 1886.

Silver and silver lead ore exported.

The quantity and value of silver and silver lead ore exported to the end of 1889 will be seen from the following table :—

Year.	Silver.		Silver lead Ore.			Total Value.
	Quantity.	Value.	Quantity.		Value.	
			Ore.	Metal.		
Up to	oz.	£	Tons cwt.	Tons cwt.	£	£
1881	726,779	178,405	191 13	....	5,025	183,430
1882	38,618	9,024	11 19	....	360	9,384
1883	77,065	16,488	136 4	....	2,075	18,563
1884	93,660	19,780	9,167 11	....	241,940	261,720
1885	794,174	159,187	2,095 16	190 8	107,626	266,813
1886	1,015,433	197,544	4,802 2	....	294,485	492,029
1887	177,308	32,458	12,529 3	....	541,952	574,410
1888	375,064	66,668	11,739 7	18,102 5	1,075,737	1,142,405
1889	416,895	72,001	46,965 9	34,579 17	1,899,197	1,971,198
Total......	3,714,996	751,555	87,639 4	52,872 10	4,168,397	4,919,952

Increase in production of silver.

It will be seen that the production of silver has, during the past few years, considerably increased. Since the important discoveries of silver deposits were made sufficient time has hardly elapsed to enable all the principal mines to be properly developed; and it may be confidently expected that, as new deposits are opened, and the mines first discovered are brought into full working order, the exports of this metal will rapidly increase. The number of miners engaged in silver and lead mines in 1889 was 6,587, and the average value of mineral won, per miner engaged, amounted to £299 5s. 0d.

Accidents in silver-mines.

The total number of accidents which took place in the silver-mines of New South Wales during the course of the year 1889 was only nine, five persons losing their lives, and four others being injured. Such a small proportion of casualties when compared to the number of persons engaged in silver-mining, where the elements of danger are great, must be taken as reflecting considerable credit on the management of the mines.

Tin.

Tin.—This mineral occurs principally in the granite and basaltic country in the extreme north of the Colony, near Tenterfield and Vegetable Creek, and in other districts of New England. Tin has also been discovered in the Barrier Ranges, at Poolamacca; near Bombala, in the Monaro district, and in the Valley of the Lachlan, but none of these deposits have as yet been worked to any extent. The deposits occur in the shape of stream and lode tin, and are worked by European and Chinese miners. Although this mineral was discovered by the Rev. W. B. Clarke as far back as the year 1853 the opening of the tin-fields of New South Wales only took place in the year 1872, and since that date, to the year 1882, the output from the mines, and the export of tin, increased in a remarkable ratio, as illustrated in the following statement:—

Output of tin mines.

Year.	Ingots and Ore. Value.
1872 to 1876	£1,032,483
1877	248,906
1878	214,613
1879	256,732
1880	354,252
1881	568,795
1882	541,413
1883	448,887
1884	281,188
1885	308,760
1886	277,545
1887	311,889
1888	309,510
1889	207,670
Total	£5,362,643

Importance of tin to the Colony.

Tin has, it will be seen, contributed in a very considerable degree to the general development of the natural wealth of the Colony, and in point of value its aggregate production stands in the third place next to gold and coal; for the years 1881–82 its yearly production was even in excess of that of gold. The production of this metal is now one of the settled industries of the country, and, as the supply is practically unlimited, the quantity raised depends entirely upon the price realised.

Value of tin exported.

In 1881, when the tin-mining industry was at its greatest height and prosperity, the value of the mineral exported had increased to £568,795 from £249,779 in 1876. In 1882 the production of the former year was nearly maintained, but after that time, owing to protracted dry seasons, which in many cases prevented mining operations, combined with the comparatively low price which the metal brought, the value of the output decreased considerably. More recently, however, the principal causes of the falling-off in value having been removed, a more satisfactory price induced a revival. The increase in the value of tin produced in 1888 was due solely to the improvement in the price of this metal, but there was again a falling off both in value and production in 1889. The production has not varied much in New South Wales since 1885, but in the year 1887 it showed an increase of £57,767 on that of 1886, whilst the value of this metal exported from the colony in 1888 showed a further increase of £57,076 over that of the previous year. For 1889, however, the figures show a decrease of 101,840. For a period of some months the tin market was controlled by a French syndicate, and the price of the metal, which was quoted at £116 per ton in January, 1887, ran up to £166 at the end of the year, fluctuating between the latter price and £170, until February, 1888, when the syndicate, unable to hold any longer, collapsed, and the metal fel. rapidly to nearly as low a level as it ever reached within the last twenty years. During the latter months of 1888 the tin market again improved, and the price obtained during that year attained an average even above that of 1887, though lower prices ruled in 1889. In June, 1890, Australian tin was quoted in the London market at £97 10s. per ton, at which figure the rich deposits of New England and the western districts should, if worked on economical principles, handsomely reward industrious proprietors. Within the eighteen years that have elapsed since the opening of the tin-fields the value of the tin exported from New South Wales amounted to £5,362,643.

Chinese and Europeans in alluvial tin-mines.

In the alluvial tin-fields of Tingha, and other parts of New England, the number of Chinese employed is comparatively great, being, in 1889, in all, 646, whilst the Europeans, working alluvial tin-drifts, only numbered 579 in those districts, and 9 in the south, or 588 in all.

Accidents in tin-mines.

Only one accident occurred in the tin-mines of New South Wales during 1889, but the accident was fatal.

Copper.

Copper.—The principal deposits of this mineral are found in the central part of the Colony, between the Macquarie, the Bogan, and the Darling Rivers. Deposits have also been found in the New England District, and likewise in the neighbourhood of Kiama, in the Illawarra District; mines are worked in the Carcoar and Boorowa districts, as well as at Walcha, and also at Broken Hill, showing that the mineral is widely diffused throughout the Colony. The very low price of copper within the last few years has deterred many from embarking in operations which showed every promise of success, and some of the mines which had been worked for many years were closed. Still, in spite of the low price of the metal, there is little doubt that, with the adoption of the more modern methods of smelting, such as are now in almost general use in the principal centres of copper production—in Spain, France, England, the United States, and Chili—the rich mines of New South Wales could be made to show handsome results. Another difficulty, common to other branches of the mining industry, lies in the great distance of some of the chief copper-mines from the port of shipment, and the consequent large cost of land-carriage.

COPPER.

Price of coppe

The prospect of an improvement in the price of this metal did not appear very encouraging at the opening of the season of 1887, and the English quotations continued to exhibit a tendency to maintain the low prices ruling in 1887, and even to further decrease; but towards the middle of that year a French syndicate entered into arrangements with the principal producers of copper, and succeeded in controlling the market for this metal. The prices, in consequence, rose to a much more satisfactory level. The operations of the syndicate, however, were of only short duration, and, owing to the large accumulation of unsaleable stock, prices fell unprecedently low. In 1872 copper realized as much as £108 per ton, whilst in December, 1886, the lowest price on record was touched, and only £38 7s. 6d. could be obtained for Chili bars. During the years 1884–1886, the price of the metal fluctuated between £58 7s. 6d., the highest quotation for January, 1884, and £38 7s. 6d., the lowest for December, 1886, the average prices for each of the successive years showing the following unsatisfactory state of the market:—

	£	s.	d.
Average for 1884	54	7	6
„ 1885	44	0	0
„ 1886	40	5	0

Operations of the French Syndicate.

At the end of 1887, however, copper had risen to £74 per ton, and in August, 1888, it was selling at £81 5s. per ton, a price which is certainly satisfactory, and much nearer the statistical value of the metal than the prices realised during the three years above quoted. The operations of the French syndicate raised the price of copper but for a comparatively short period, and when, eventually, its failure took place, it had the effect of causing the abrupt cessation of the contracts entered into with some of the principal colonial mines. The average price for copper sold in Sydney by independent companies reached £71 7s. for the year 1888, thus accounting for the enhanced estimated value of the total

export of this metal during that year. The copper mark
Europe has remained much disturbed since the failure
alluded to. In June, 1890, copper was quoted in London a
15s. per ton, cash quotation.

Future of copper-mining.

With a reduction in the cost of production and of carria
copper lodes of New South Wales, which contain ores of a
much higher percentage than those of many well-known
worked at a profit in other parts of the world, should
satisfactory results, notwithstanding the position of affairs
present time.

Principal copper-mines.

The more important mines are those of Cobar and Ny
situated in the Central Division, and within 80 miles of each
The former employed over 500 men and boys, but is now idl
deepest shaft is 566 feet, and the width of the lode from 2
feet. From the date of the commencement of operations in
that company treated 205,005 tons of ore, giving a return e
22,943 tons of refined metal, an average production of 11
cent. of copper per ton of ore, and the sum of £154,000 ha
paid in dividends to the shareholders. Nymagee employs
plement of 250 persons, and its ores contain an average prop
of copper equal to 11·42 per cent. Since its formation, in
this mine has paid large dividends. The refined Nymagee
is superior to that of Cobar, and commands a higher price
market. A depth of 634 feet has been reached in sinking th
the lode. The New Mount Hope and the Great Central C
mines are also said to be rich in payable ores. The first men
employed 56 men and 6 boys in 1889, and raised 1,870
ore, equal to 260 tons copper, valued at £10,400; the
employed 90 men, raised 2,000 tons of ore, or 394 tons c
valued at £15,760. It only requires a small advance in th
of the metal to cause great activity in the copper-mines o
South Wales.

The following table shows the quantity and value of copper, he produce of the Colony, exported during each year, from 1858 1889:—

Produce of copper.

Year.	Ingots and Ore—Value.	Year.	Ingots and Ore—Value.
	£		£
1859 to 1876	408,071	1884	362,287
1877	127,396	1885	170,993
1878	209,030	1886	122,990
1879	210,623	1887	115,444
1880	268,700	1888	247,304
1881	257,884	1889	122,444
1882	182,473		
1883	472,982	Total	£3,278,621

Only one accident was recorded in the copper-mines during the year 1889, in which one man was killed.

Accidents in copper-mines.

Iron.—Iron is widely diffused throughout the Colony of New South Wales, and occurs principally in the form of magnetite, brown hematite or goethite, limonite, and bog iron. Deposits of chrome iron are also found, which offer great natural facilities for economical treatment. Magnetite is the richest of all the ores of iron, sometimes containing a little over 72 per cent. of available metallic iron, though it is not often found reaching this very high percentage. These ores are widely distributed throughout the Colony. The results of a number of analyses made from deposits at Brown's Creek, in the County of Bathurst, and at Wallerawang, where veins were opened out a few years ago, show that the samples of ore yielded from 40·89 to 56·85 per cent. of metallic iron. At

Iron.

Maximum richness of magnetic ores of iron.

Analysis of magnetite from Wallerawang mines.

Wallerawang a variety of garnet, containing a large percentage of metal, occurs in conjunction with the ore in the veins, which is described as "extremely well adapted for reduction in the blast furnace." Brown hematite or goethite occurs in very extensive deposits in the Blue Mountain Ranges, the principal centres, so far explored, being situated at Mittagong, Jamberoo, and Berrima, at Lithgow Valley and Wallerawang, and in the Mudgee District. The result of a number of analyses of this kind of ore denotes that it is very rich in metallic iron, containing a percentage of 42·69 to 64·48 per cent., and in the majority of cases over 55 per cent. of metal. A sample of hematite from the Maitland district contained 60·83 per cent of metallic iron. The value of these deposits is enhanced by their almost invariable occurrence in proximity to limestone and coal-beds. It is fortunate, also, that the main line of railway passes through the region where the deposits are most easily worked.

Brown hematite or goethite.

Richness of English and Colonial clay-bands.

Limonite—a variety of brown hematite—principally occurs at Lithgow, Eskbank, and Bowenfels in the Blue Mountains, and at Bulli in the Illawarra district. This ore is usually found very rich in metal, and contains an average of over 50 per cent. of iron, while the English clay bands, which are mostly carbonates, only contain about 30 per cent. of metallic substance.

Bog iron ore.

Bog Iron Ore, which is impure *limonite*, is principally found at Mittagong; and assays of this ore gave a percentage of metal equal to an average of over 45 per cent. *Chromium* is found in the northern portion of New South Wales, in the Gwydir and New England districts, and also at Yass, Young, and near Ironbarks and Mudgee. It is usually associated with serpentine, but so far nothing has been done to develop these valuable deposits.

Chromium.

No other colony of the group possesses deposits of iron ore approaching in extent or richness those of New South Wales; it is therefore possible that at some future time this Colony will become the great seat of the iron industry of Australia. As illustrating the present extent of the supply required, the following table has been compiled; the figures given include the values of all description of iron, machinery, or iron manufactures, except cutlery and implements, to end of 1888:—

Australasian imports of iron and iron manufactures.

Value of Iron and Iron Manufactures imported into the various Colonies.

Colony.	1885.	1886.	1887.	1888.	Total for Four Years.
	£	£	£	£	£
New South Wales	2,233,895	1,465,401	1,221,332	2,041,021	6,961,649
Victoria	1,137,266	1,147,863	1,374,859	1,902,946	5,562,934
Queensland	665,926	645,285	568,403	918,829	2,798,443
South Australia ..	378,482	307,783	345,707	475,657	1,507,639
Tasmania	192,493	245,516	193,598	203,228	834,835
New Zealand......	755,970	615,116	642,225	647,840	2,661,151
Totals	5,364,032	4,426,964	4,346,124	6,189,531	20,326,651

The average yearly import for the four years covered by the above statement amounts to £1,740,412 for New South Wales, and £5,081,663 for Australasia; and the quantity of pig iron required to produce the material represented by these values was approximately 153,000 tons and 460,000 tons per annum, for New South Wales and the whole group of colonies respectively.

Iron manufactories in N. S. Wales.

The only works for the manufacture of iron from the ore are situated at Eskbank, near Lithgow, where the metal treated is red siliceous ore, averaging 22 per cent., and brown hematite, yielding 50 per cent. metallic iron. Abundance of coal and limestone are found in the neighbourhood. This establishment, however, has for some time abandoned the manufacture of pig iron, for which it was originally built. The principal work now carried on is the rerolling of old rails, the manufacture of iron bars, rods, and nails, and of ordinary castings. A successful attempt has recently been made at Mittagong to make gas-pipes, &c., from iron smelted from the ore, and taken direct to the mould, without first making it into pig iron.

Antimony.

Antimony.—Deposits of antimony occur in the Colony in various places, chiefly in the Armidale, Bathurst, and Rylstone districts. The principal centre of this industry is at Hillgrove, near Armidale, where the Eleanor Mine, the richest in the Colony, is situated. The results of a number of analyses, made by the authorities of the Geological Museum, show a per centage of metal ranging from 39·90 to 69·97 per cent. of metal; but notwithstanding these encouraging assays the price of this metal has not been sufficiently high to tempt Colonial producers. Up to the end of 1889 the value of antimony exported from the Colony was £73,501.

Manganese.

Manganese.—Deposits of manganese ore have been discovered during the past few years in various parts of New South Wales. Pyrolusite, in the form of black oxide and manganese dioxide, occurs principally in the county of Argyle and in the central portion of the Great Dividing Range, extending northward as far as Tamworth and Bendemeer. Some of the specimens analysed have yielded a very high percentage of metal, but the demand for manganese in the Colony is very trifling, and until a foreign market is found, or local manufactories spring up requiring the metal, the rich deposits of this ore will remain untouched. The ore is found extensively in conjunction with iron in coal and limestone country, and often contains a small percentage of cobalt.

Bismuth.

Bismuth is found associated with molybdenum and gold, in quartz-veins in the neighbourhood of Glen Innes, whence the quantity raised has been chiefly obtained. The principal mine is at Kingsgate, where this mineral occurs in a granitic formation, associated with molybdenum, mispickel, and tin. This mine was closed at the end of 1889, there being no demand for the mineral. The largest mass of native bismuth yet discovered in New South Wales weighed 30 lb. The value of metal exported up to the end of 1889 was £35,836. This industry gave employment to 47 persons in 1889. Deposits of *Cobalt* have been found at Port Macquarie, but the market for this metal is small, and no attempt has yet been made to produce it on any large scale.

Cobalt.

Mercury.

Mercury in the native state was discovered in 1841, on the Cudgegong River, and it also occurs at Ophir and at the Clifton Mine, Boorook, but the deposits have never been worked.

Cinnabar.

Cinnabar has been obtained at Cudgegong, where a mine was worked for some time; it has also been discovered in the Abercrombie Ranges, and at Moruya. In all cases it was associated with gold and other minerals.

Platinum and Iridosmine.

Platinum and the allied compound metal *Iridosmine* have been found in New South Wales, but so far in inconsiderable quantities, the latter occurring commonly with gold or tin in alluvial drifts.

Graphite.

Graphite has been discovered, and is about to be worked, at Undercliff, in the New England district, from a lode 6 ft. wide. This promises to develop into a valuable industry.

Tellurium.

Another of the noble metals, *Tellurium*, has been discovered at Bingera and other parts of the northern districts, though at present only in such minute quantities as would not repay the cost of working.

NON-METALLIC MINERALS.

Coal.

Coal.—The carboniferous formations extend over a considerable portion of the colony, and workable coal-seams have been discovered in many places. At present, however, the coal-mining industry is confined to those centres, which, from their close proximity to ports of shipment, or to the railway lines, afford ready means for the disposal of the commodity when raised.

Discovery of coal.

Coal was first discovered in the Colony in the year 1797 near Mount Keira, in the Illawarra district, by a man named Clark, who was supercargo of the "Sydney Cove," and had been wrecked upon the coast. Later in the same year Lieutenant Shortland discovered the River Hunter, with the coal-beds situated near its mouth. In 1826 the Australian Agricultural Company obtained a grant of 1,000,000 acres of land, together with the sole right, conferred upon them by charter, of working the coal-seams which were known to exist in the Newcastle district. Several mines were opened up, and profitably worked for a number of years; but it was not until the expiration, in 1847, of the monopoly enjoyed by the company, that the coal-mining industry showed signs of extensive development.

A.A. Co.'s monopoly.

Output of coal.

In the year named the yearly output of coal had only reached the total of 40,732 tons, of the value of £13,750. Six years afterwards the production had been doubled, and the output of this mineral has rapidly increased, year by year, until coal-mining has now become one of the staple industries of the Colony. Newcastle is singularly well fitted by situation to become the port of supply for all the countries of the southern seas. Every week coal-laden vessels leave its wharves, not only for the Australian colonies, but for China, India, the Pacific Slope of North and South America, Mauritius, the Cape of Good Hope, and other lands. Every provision has been made by the Government for shipping coal, and over two miles of wharves, furnished with cranes and shoots capable of loading 16,200 tons per day, line its shores. The markets of the Colonies are also supplied with quantities of excellent coal from the seams worked in the Illawarra district.

From the 40,732 tons extracted in 1847 under the monopoly of the Australian Agricultural Company, the quantity raised under public competition and enterprise has in 1889 expanded to the large figure of 3,655,632 tons, valued at £1,632,849; and a glance at the statement following will show that the output has steadily increased. Up to the end of 1889 the total quantity of coal extracted from the New South Wales mines, from their opening in the earlier years of the century, amounted to 46,803,983 tons, valued at £22,787,156.

Total quantity obtained.

Mountain coal.

The deposits found in the Blue Mountains, near the line of railway which runs along their crest, at Katoomba, Lithgow, Wallerawang, and elsewhere, supply a portion of the requirements of the city, and other industrial centres in its neighbourhood, as well as part of the western district of the Colony. Coal is also mined at Berrima and other places in that district, whence a large quantity of the coal consumed in the southern districts of the Colony is obtained. The area over which coal is distributed is very great, and has been computed at 23,950 square miles; besides this it is known to underlie the Hawkesbury sandstone in and around Sydney, having been discovered at various places by boring. It was recently found near Liverpool at a depth of 2,600 feet. Coal has also been found in the Clarence series, though it has not yet been worked commercially. The quantity of coal in the coal measures down to a depth of 4,000 feet, and excluding seams less than 30 inches, is estimated by the Government Geologist at 78,198 million tons;—this estimate allows for one-third loss in working.

Coal area.

The number of coal-mines registered in New South Wales during 1889 was 103, as compared with 91 in the previous year. These gave employment to 10,277 persons, of whom 8,349 were employed underground, and 1,928 above ground. The average quantity of coal extracted per miner was 438 tons, as against an average of 420 tons for the previous year. In 1882 the weight per miner stood at 578 tons; but the yield has since gradually declined, and the average for 1889 was less than the decennial average, though slightly above that for 1888 :—

Coal raised in New South Wales.

Amount of Coal raised in New South Wales, and number of Coal-miners employed.

Year.	Number of persons employed in and about mines.	Number of persons employed under-ground.	Quantity of coal raised.		
			Total.	Per person employed in and about mines.	Per person employed under-ground.
			Tons.	Tons.	Tons.
1880	4,651	3,851	1,466,180	315	380
1881	4,098	3,419	1,769,597	431	517
1882	4,587	3,649	2,109,282	459	578
1883	5,481	4,407	2,521,537	460	572
1884	6,227	5,050	2,749,109	441	544
1885	7,097	5,627	2,878,864	405	511
1886	7,847	6,346	2,830,175	360	446
1887	7,998	6,539	2,922,497	365	447
1888	9,301	7,622	3,203,444	344	420
1889	10,277	8,349	3,655,632	356	438
Average for 10 years.	6,756	5,486	2,610,631	394	485

Output per miner.

From the figures just given it would appear that every miner working underground extracts annually an average of 485 tons, which, calculated at the mean price of coal at the pit's mouth, is equivalent to £216 5s. This production is certainly very large, and compares favourably with the results exhibited by the principal coal-raising countries of the world, as will be evident from the following figures given by Mulhall :—

Country.	Tons of coal raised per miner.	Value at the pit's mouth per ton.			Total value of coal raised per miner.		
		£	s.	d.	£	s.	d.
New South Wales	485	0	8	11	216	5	0
Great Britain	303	0	7	0	106	1	0
United States	295	0	9	0	132	15	0
Germany	270	0	5	0	67	10	0
France	190	0	11	0	104	10	0
Belgium	168	0	7	8	64	8	0
Austria	192	0	6	0	57	12	0

In the absence of information as to the average amount of wages paid to coal-miners in other countries an exact comparison

Earnings of Miners.

is not possible, but it is abundantly clear, that whatever may be the drawbacks to a miner's lot in the Australian Colonies in no other country is it so satisfactory. The foregoing table proves this, for on the improbable supposition that the miner everywhere receives in wages the same proportion of the value of the coal as in New South Wales, that is, about 40 per cent. of the selling price at the pit's mouth, the average earnings in each country would be :—

Country.	Coal per miner.	Wages per ton of coal.			Earnings of miner per annum.		
	tons.	£	s.	d.	£	s.	d.
New South Wales	485	0	3	7	86	17	11
Great Britain	303	0	2	10	42	18	0
United States	295	0	3	7	52	17	0
Germany	270	0	2	0	27	0	0
France	190	0	4	5	42	0	0
Belgium	168	0	3	1	25	18	0
Austria	192	0	2	5	23	4	0

Coal-mining in Northern Districts.

In the Northern or Hunter River District the number of collieries under official inspection in 1889 was 67, employing a complement of 7,559 persons, 6,216 of whom were miners and wheelers. The quantity of coal raised amounted to 2,624,347 tons, or 71·8 per cent. of the whole production of New South Wales, showing an increase of 557,305 tons compared with the output of 1888, which was low on account of the strike. The total weight of coal won in the Colony was 3,655,632 tons, as against 3,203,444 tons in 1888, being an increase of 14·12 per cent. The increase in the output of the northern collieries is satisfactory, although the fact remains that in 1888, in consequence of the strike at the close of that year, in addition to the local loss of trade and the general disturbance to the trade of the Colony, this district lost the benefit arising from the hewing and handling of 392,378 tons of coal, representing at the average price of 1888 a

Effect of strike

sum of £179,840, which constitutes the minimum of the loss sustained.

The table following shows the growth of the coal industry within the last ten years in the Hunter District. It will be seen that the quantity of mineral raised and the number of persons employed have been steadily increasing :—

Northern District Coal-mines.

Year.	Number of persons employed in and about mines.	Number of persons employed underground.	Quantity of coal raised.		
			Total.	Per person employed in and about mines.	Per person employed under-ground.
			tons.	tons.	tons.
1880	3.679	3,148	1,079,009	293	342
1881	3,234	2,744	1,352,472	418	492
1882	3,475	2,830	1,569,517	452	554
1883	4,184	3,436	1,899,700	454	552
1884	4,735	3,927	2,055,343	434	523
1885	5,380	4,400	2,113,373	393	480
1886	6,133	5,044	2,178,116	355	432
1887	6,287	5,217	2,243,792	356	430
1888	6,873	5,736	2,067,042	300	360
1889	7,559	6,216	2,624,347	347	422

Coal-mining in Southern Districts.

In the Southern Districts there were in 1889 sixteen collieries under official inspection, giving employment to 2,065 persons, of whom 1,598 were at work underground. These numbers exhibit an increase of 389 persons employed in and about the mines, and 354 underground workers over those so engaged in 1888. There is, however, a decrease of 95,234 tons in the production. The total quantity raised in 1888 was 796,806 tons, which was more than double the output of the previous year. This large increase was, no doubt, owing to the cessation of work in the northern mines for about three months during the strike. It will be noticed that the quantity of coal raised per person employed about the mine, and per person underground in 1889, which are lower than the figures for the phenomenal year 1888, show a satisfactory advance upon those of 1887, although somewhat under the decennial average. The gain to the Southern District by reason of the strike, without taking into consideration the higher price obtained for coal, may be set down at over £160,000. It is not improbable that the impetus received during 1888 will have a permanently favourable effect on the progress of the Southern District. The history of coal production in this region may be gathered from the following table :—

Southern District Coal-mines.

Year.	Number of persons employed in and about mines.	Number of persons employed under-ground.	Quantity of coal raised.		
			Total.	Per person employed in and about mines.	Per person employed under-ground
			tons.	tons.	tons.
1880	807	563	240,211	298	426
1881	654	499	253,283	387	507
1882	878	633	342,126	389	540
1883	998	736	389,419	390	529
1884	1,097	820	419,942	382	512
1885	1,348	918	453,728	336	494
1886	1,298	947	370,830	286	390
1887	1,313	982	376,658	287	383
1888	1,676	1,244	796,806	475	640
1889	2,065	1,598	701,572	339	439

Coal-mining in Western Districts.

In the Western Districts there were in 1889 a total of 16 collieries registered, giving employment to 653 persons, of whom 535 were at work underground. From the subsequent table it will be seen, that, the output was in excess of former years, with the exception of 1888, when the demand for Western coal was larger than usual, owing to the scarcity caused by the strike in the Northern Collieries. The average quantity of coal raised per miner is much greater in the Western collieries than elsewhere in the Colony. This is due to a variety of causes, but chiefly to the greater thickness of the seams and the more brittle character of the coal, and to the circumstance that the coal-beds are almost horizontal and generally at small depths; in some cases the mouths of the pits are on a level with the surface of the ground. The facility for working coal is therefore much greater in these mines than in those at Newcastle. But though the out-put is greater per miner than in the other coal regions, the price for

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hewing is lower, so that the earnings of the individual miner do not differ greatly wherever the mine is situated.

Coal production in the Western Districts.

The following table shows the growth of coal production in the Western region during the last ten years. The progress has been very regular and in keeping with the advance of settlement in the portion of the colony extending from the Blue Mountains to the Darling, in which the Western collieries have a monopoly of the coal trade. Situated as these mines are in close proximity to the principal iron-fields of New South Wales, their future prospects will be greatly assured should the manufacture of iron from the ore become an established industry in this part of the Colony :—

Western District Coal-mines.

Year.	Number of Persons employed in and about Mines.	Number of Persons employed underground.	Quantity of Coal raised.		
			Total.	Per Person employed in and about Mines.	Per Person employed underground.
			Tons.	Tons.	Tons.
1880	165	140	146,960	890	1,049
1881	210	176	163,842	780	930
1882	234	186	197,639	844	1,062
1883	299	235	232,418	777	989
1884	395	303	273,824	693	904
1885	369	309	311,763	845	1,009
1886	416	355	281,229	676	792
1887	398	340	302,137	759	888
1888	752	642	339,594	451	529
1889	653	535	329,713	505	616

Accidents in coal-mines.

Accidents in coal-mines were, unfortunately, more frequent in 1889 than in the preceding year, though less than those of 1887, when the loss of life was especially large, owing to the disastrous explosion in the Bulli Mine, whereby eighty-one persons lost their lives. In England, during the latest year for which the returns are available, there were 995 lives lost in the coal-mines, or 1·89 of every thousand persons employed, or at the rate of 162,935 tons of coal raised for every life lost. The number of accidents, with the proportion of miners to each fatal and non-fatal case, is given herewith, as well as the quantity of coal raised to each life lost.

Accidents in Coal Mines.

Year.	Non-fatal Accidents.	Fatal Accidents.	Persons employed.		Coal raised.	
			Per Non-fatal Accident.	Per life lost.	Per Non-fatal Accident.	Per life lost.
					tons.	tons.
1881	33	2	124	2,049	53,624	884,798
1882	33	12	139	382	63,917	175,773
1883	34	15	161	365	74,160	168,102
1884	34	14	183	445	80,858	196,364
1885	40	11	177	645	71,971	261,714
1886	43	29	182	270	65,818	97,592
1887	45	94	178	85	64,944	31,095
1888	43	15	216	620	74,500	213,563
1889	57	41	180	251	64,134	89,162

Bulli Explosion.

Owing to the number of lives lost at Bulli in 1887 the average for this Colony appears considerably higher than for Great Britain, although the circumstances surrounding mining in New South Wales would warrant the expectation of a much lighter average.

The following table shows the value of coal raised in the Colony from the earliest times. It will be seen that the total value to the close of 1889 was £22,787,156 :—

Value of coal raised.

Coal raised in the Colony, and average price per Ton.

Year.	Quantity.	Average per ton.		Value.
	Tons.	s.	d.	£
Prior to 1829	50,000	10	0	25,000
1829	780	10	1·23	394
1830	4,000	9	0	1,800
1831	5,000	8	0	2,000
1832	7,143	7	0	2,502
1833	6,812	7	6·73	2,575
1834	8,490	8	10	3,750
1835	12,392	8	10·19	5,483
1836	12,646	9	1·06	5,747
1837	16,083	9	8·81	7,828
1838	17,220	9	9·05	8,399
1839	21,283	9	9·73	10,441
1840	30,256	10	10·86	16,498
1841	34,841	12	0	20,905
1842	39,900	12	0	23,940
1843	25,862	12	6·54	16,222
1844	23,118	10	8·34	12,363
1845	22,324	7	10·27	8,769

Coal raised in the Colony, and average price per ton—*continued.*

Year.	Quantity.	Average per ton.		Value.
	Tons.	s.	d.	£
1846	38,965	7	0·46	13,714
1847	40,732	6	9·01	13,750
1848	45,447	6	3·38	14,275
1849	48,516	6	0·45	14,647
1850	71,216	6	6·67	23,375
1851	67,610	7	6·66	25,546
1852	67,404	10	11·33	36,885
1853	96,809	16	1·51	78,059
1854	116,642	20	5·63	119,380
1855	137,076	12	11·96	89,082
1856	189,960	12	4·06	117,906
1857	210,434	14	0·97	148,158
1858	216,397	14	11·84	162,162
1859	308,213	13	3·14	204,371
1860	368,862	12	3·36	226,493
1861	342,067	12	9·52	218,820
1862	476,522	12	9·73	305,234
1863	433,889	10	10·66	236,230
1864	549,012	9	10·10	270,171
1865	585,525	9	4·43	274,303
1866	774,238	8	4·44	324,049
1867	770,012	8	10·79	342,655
1868	954,231	8	9·08	417,809
1869	919,774	7	6·32	346,146
1870	868,564	7	3·54	316,836
1871	898,784	7	0·47	316,340
1872	1,012,426	7	9·92	396,198
1873	1,192,862	11	1·94	665,747
1874	1,304,612	12	1·37	790,224
1875	1,329,729	12	3·89	819,430
1876	1,319,918	12	2·06	803,300
1877	1,444,271	11	10·74	858,998
1878	1,575,497	11	8·28	920,936
1879	1,583,381	12	0·12	950,879
1880	1,466,180	8	4·72	615,336
1881	1,769,597	6	9·55	603,248
1882	2,109,282	8	11·97	948,965
1883	2,521,457	9	6·40	1,201,942
1884	2,749,109	9	5·71	1,303,077
1885	2,878,863	9	3·72	1,340,213
1886	2,830,175	9	2·53	1,303,164
1887	2,922,497	9	2·57	1,346,440
1888	3,203,444	9	1·00	1,455,198
1889	3,655,632	8	11·20	1,632,849
Total.....	46,803,983	9	8·85	22,787,156

rice of coal

The above table shows that coal, like other articles of commerce, is subject to fluctuations in price. These fluctuations have to a large extent arisen, in the past, from uncertainty in the markets. This uncertainty no longer exists, for the local markets and those of the other Australian Colonies, demand a large share of the coal raised. The proportion of the total taken by Australasia increases every year, and operates in the direction of steadying the price, by removing the principal cause of fluctuation. The highest average price obtained during any year was in 1854, the first of the Crimean war, and the third after the gold rush, when the price per ton was not less than 20s. 6d. In 1872 the output reached 1,000,000 tons, ten years later it had increased to 2,000,000, and in 1889 to 3,655,632 tons.

Local consumption.

The Colony was its own chief customer during 1889, when out of a total production above stated, of 3,655,632 tons, its consumption amounted to 1,267,930 tons, or nearly 35 per cent. Victoria came next, with 857,578 tons, or 36 per cent. of a total export of 2,387,702 tons. The quantity of coal required for local consumption denotes a satisfactory increase during most years, as the following statement shows:—

Year.	Tons of Coal.	Year.	Tons of Coal.
1876	451,101	1883	1,009,012
1877	528,544	1884	1,058,346
1878	569,077	1885	1,122,507
1879	585,332	1886	1,094,310
1880	712,824	1887	1,132,055
1881	739,753	1888	1,279,572
1882	847,737	1889	1,267,930

Consumption per head.

The annual consumption per head increased from 15 cwt. in 1876 to 22 cwt. in 1887, and 23 cwt. in 1889. The larger use of steam for railway locomotives, for manufacturing, and other purposes, as well as the multiplication of gas-works, accounts for a great portion of the increase, but it must also be borne in mind that there is a large and increasing demand for bunker coal for ocean-going steamers, which appears not as an export, but as required for home consumption. The amount of coal taken by the steamers during 1889 was little short of 200,000 tons.

Export of coal.

The quantity of coal supplied to the customers of the Colony abroad shows also a large increase during this period :—

Year.	Tons.	Year.	Tons.
1876	868,817	1883	1,512,445
1877	915,727	1884	1,690,763
1878	1,006,420	1885	1,756,356
1879	998,049	1886	1,735,865
1880	753,356	1887	1,790,442
1881	1,029,844	1888	1,923,872
1882	1,261,545	1889	2,387,702

The total increase in the export trade for the year was 463,830 tons, while the home consumption showed a decrease of 11,642 tons. There were 22,571 tons of coke manufactured during the year, valued at £32,732. Of the quantity mentioned 16,626 tons of coke came from the collieries in the northern districts.

Countries to which New South Wales coal is principally exported.

The chief customers of New South Wales for coal during the years 1888–9 will be found in the following table, from which it will be seen how wide is the circle which relies upon the Colony for the supply of one of the chief necessaries of civilized life :—

Countries to which Coal was exported during the years 1888 and 1889.

Country or Port.	1888.		1889.	
	Quantity.	Value.	Quantity.	Value.
	Tons.	£	Tons.	£
Victoria	744,425	406,744	857,578	488,344
United States	495,300	282,059	407,601	226,956
New Zealand	140,882	74,841	160,637	85,347
Chili	119,505	67,073	153,183	85,585
South Australia	94,886	51,370	190,412	92,756
Hongkong	48,061	26,868	102,702	56,248
Tasmania	39,999	20,755	65,251	31,913
India	36,143	20,593	67,266	37,207
Java	35,653	19,766	86,057	49,408
Phillipine Islands	34,000	18,908	49,426	27,675
Celebes	1,367	752	3,740	2,056
Sandwich Islands	23,124	12,749	28,096	15,518
Singapore	21,568	12,194	66,580	37,575
Western Australia	12,296	6,485	15,180	8,428
New Caledonia	11,816	6,303	14,428	8,470
China	10,656	6,439	19,505	10,285
Peru	9,921	5,455	25,263	14,153
Fiji	8,941	4,857	13,859	7,480

Countries to which Coal was exported—*continued.*

Country or Port.	1888.		1889.	
	Quantity.	Value.	Quantity.	Value.
Mauritius	7,323	4,076	15,497	8,393
Queensland	7,276	4,098	7,311	3,932
South Sea Islands	5,786	3,343	7,369	4,232
Canada	4,413	2,437	....	....
Mexico	2,193	1,206	10,025	5,534
Ceylon	1,685	927	3,938	2,121
Penang	1,535	1,151	2,414	1,410
Bolivia	1,351	743	....	....
Sumatra	1,130	621	5,449	2,996
Equador	1,039	585	....	....
Kaiser Wilhelm's Land	603	444	1,979	1,421
Japan	....	....	1,003	552
British New Guinea	485	340	....	....
Guam	....	....	3,328	1,832
Durban	400	220	....	....
Borneo	110	70	....	....
Great Britain	....	....	480	264
Cochin China	....	....	933	513
Natal	....	....	487	268
Siam	....	....	725	399
Total	1,923,872	1,064,472	2,387,702	1,279,271

Wealth of Colony in coal.

The wealth of the Colony of New South Wales in coal is enormous, and the further development of the industry may be regarded as almost a certainty. As the great Australian Continent is only in the early period of the development of its immense resources, the coal-mining industry of New South Wales may also be said to be in its infancy. It is, however, a very vigorous infancy, giving promise of a great future.

Coal as a heat producer.

New South Wales coal, especially that obtained in the northern mines, compares favourably as a heat producer with the best foreign coal. It has the advantage of a greater specific gravity to the extent of 5·4 per cent., and it contains less sulphur. The tabular comparison on next page gives a clear view of the properties of the principal Australian coals, as contrasted with the mean of British coals. The average of English, Welsh, and Scotch mines will be found after the analysis of Northern District coals, and it will be seen that there is practically little difference between the British and Hunter River coal.

Analysis of Northern District Coals, New South Wales.

Locality.	Specific Gravity.	Composition per cent. exclusive of water only.						Water per cent.	Coke per cent.	Water at 212° converted into steam by 1 lb. coal.
		Carbon.	Hydrogen.	Oxygen.	Nitrogen.	Sulphur.	Ash.			lb.
Wallsend	1·333	79·96	6·26	7·08	·68	1·25	4·77	2·75	61·86	13·20
Waratah	1·303	81·06	5·81	6·52	1·23	1·14	4·24	2·21	59·97	14·30
A. A. Co., Newcastle	1·297	78·76	6·34	7·28	·79	1·36	5·47	2·20	62·87	12·92
Greta	1·287	78·41	6·60	9·34	1·43	1·44	2·78	2·25	57·13	13·21
Russell's Mine	1·274	77·37	6·48	10·46	1·51	1·43	2·75	1·85	52·65	13·21
Anvil Creek	1·323	77·15	5·91	6·07	1·46	1·48	7·93	1·74	55·70	12·65
Cardiff Mine	1·286	82·25	4·38	6·95	1·03	·35	5·04	1·85	54·43	......
Mean	1·300	79·28	5·97	7·67	1·16	1·21	4·71	2·122	57·80	13·25
British Coals (mean)	1·279	80·40	5·19	7·87	1·21	1·25	4·05	0·63 to 9·13	61·00	14·82

Analysis of Western District Coals.

Locality.	Specific gravity.	Composition per cent. exclusive of water only.						Water per cent.	Coke per cent.	Carbolic intensity calculated.	Water at 212° converted into steam by 1 lb. coal.
		Carbon.	Hydrogen.	Oxygen.	Nitrogen.	Sulphur.	Ash.				
											lb.
Eskbank	1·335	72·30	5·43	6·65	·85	1·60	13·17	2·00	62·88	74·26	12·65
Bowenfels	1·399	70·72	5·65	9·65	·93	1·38	11·67	2·36	......	72·45	12·65
Lithgow	1·329	69·41	6·10	11·70	1·03	1·44	10·32	1·95	62·46	72·06	12·10
Vale of Clwydd.........	1·323	69·86	5·82	11·89	1·02	1·40	10·07	2·10	63·18	71·38	12·10
Mean	1·346	70·57	5·75	9·97	·96	1·45	11·31	2·10	62·84	72·54	12·37

Analysis of Southern District Coals.

Locality.	Specific gravity.	Composition per cent. exclusive of water only.						Water per cent.	Coke per cent.	Carbolic intensity calculated.	Water at 212° converted into steam by 1 lb. coal.
		Carbon.	Hydrogen	Oxygen.	Nitrogen.	Sulphur.	Ash.				
											lb.
Nattai	......	91·24	3·60	0·59	......	trace	4·56	3·28	92·37	85·90	undetermined.
Mt. Kembla	1·363	80·67	5·30	1·58	·70	·87	10·88	1·50	......	82·70	13·21
Mt. Keira	1·379	78·82	5·17	3·87	1·33	1·00	9·81	1·15	74·35	79·83	12·92
Berrima	1·364	69·92	4·55	13·09	·56	1·30	10·58	1·70	64·24	66·53	11·82
Bulli	1·471	76·35	4·75	5·04	......	·55	13·31	1·03	74·78	......	12·21
Mean	1·394	79·40	4·67	4·83	·52	·74	9·82	1·73	76·43	78· 7	12·54

KEROSENE SHALE.

Shale deposits.

This mineral is found in various parts of the Colony, but principally at Hartley, Blackheath, Bathgate, near Wallerawang, Joadja Creek, Berrima, Mount Kembla, Burragorang, Lake Macquarie, and Greta, and also at Colley Creek, near Murrurundi, and lately in the Capertee District, in the valley of the Wolgan River. The shale occurs in saucer-shaped deposits, varying in thickness from a few inches to 6 feet. It is a species of cannel-coal, similar to the Boghead mineral of Scotland, but yielding a much larger percentage of volatile hydro-carbon than the Scotch mineral. The richest quality yields upwards of 150 gallons of crude oil per ton, or 18,000 cubic feet of gas, with an illuminating power of thirty-eight or forty-eight sperm candles. The specific gravity is 1·06, amount of sulphur 0·49 per cent., and yield of tar 40 gallons per ton. It is found advantageous for mixing with ordinary coal for the manufacture of gas, and is largely exported to Great Britain, America, and other foreign countries, as well as the neighbouring colonies, for gas purposes. On analysis the following result was obtained from average specimens :—

Volatile Hydro-carbons, including moisture......	82·50	per cent.
Fixed Carbon..	6·50	,,
Ash..	11·00	,,

Quantity and value of shale raised.

Though analyses of this mineral have proved that payable seams occur in many places, only two companies have as yet systematically worked kerosene shale in the Colony—the New South Wales Shale and Oil Company, at Hartley, and the Australian Oil and Mineral Company, at Joadja Creek. These companies not only raise shale for export, but also manufacture from it petroleum oil and other products. The quantity and value of kerosene shale raised since the opening of the mines in 1865 amounts to 556,682 tons, of the value of £1,234,449, as shown in the following table.

Kerosene Shale raised in New South Wales.

Quantity	Average price per ton.	Total value.	Year.	Quantity.	Average price per ton.	Total value.
Tons.	£ s. d.	£		Tons.	£ s. d.	£
570	4 2 5·47	2,350	1878	24,371	2 6 11·40	57,211
2,770	2 18 10·14	8,150	1879	32,519	2 1 1·96	66,931
4,079	3 14 9·21	15,249	1880	19,201	2 6 7·03	44,725
16,952	2 17 7·11	48,816	1881	27,894	1 9 2·59	40,748
7,500	2 10 0	18,750	1882	48,065	1 15 0	84,114
8,580	3 4 3·18	27,570	1883	49,250	1 16 10·77	90,861
14,700	2 6 3·91	34,050	1884	31,618	2 5 7·86	72,176
11,040	2 11 11·91	28,700	1885	27,462	2 8 11·62	67,239
17,850	2 16 6·60	50,475	1886	43,563	2 5 10·79	99,976
12,100	2 5 1·48	27,300	1887	40,010	2 3 10·43	87,761
6,197	2 10 0·3	15,500	1888	34,869	2 2 2·66	73,612
15,998	3 0 0	47,994	1889	40,561	1 18 3·55	77,667
18,963	2 9 0·81	46,524	Total	556,682	2 4 4·20	1,234,449

Yearly output of shale compared.

ompared with the years 1882 and 1883, the production of the years 1884 and 1885 exhibits a considerable decrease, some-t compensated for by the higher price obtained for the shale. year 1886, however, shows a renewal of activity in the pro-ion of this mineral, though a tendency to decrease is again rvable in 1888. The cause of the irregularity in the quantity hale mined will probably be found in the uncertainty of the and for export, although the quantity required for local con-ption has also greatly varied. During the seven years, 1883–9, total export was 132,138 tons, while the amount for home sumption was 135,195 tons.

DIAMONDS AND GEM-STONES.

The existence of diamonds and other gem-stones in the territory of New South Wales has been known for many years, but no attempt had been made to work the deposits until the year 1884, when a company was formed to develop the mines, near the town of Bingera. In the course of the following year, several deposits of diamantiferous wash were discovered in the country round Inverell, in the New England district.

Number of diamonds found.

The number of diamonds found in the Colony to the end of 1887 is estimated at 75,000, the largest being one of 5⅝ carats, or 16·2 grains. The diamonds occur in old tertiary river drifts, and in the more recent drifts derived from them. The deposits are extensive, and have not yet been thoroughly prospected. The New South Wales diamonds are harder and much whiter than the South African diamonds, and are classified on a par with the best Brazilian gems. During the year 1889 the Malacca Company, near Tingha, found diamonds weighing 2,195⅝ carats, valued at £878 5s. Diamonds and gem-stones have been found in other parts of the Colony besides the New England District, and the late Dr. Böhme, a geologist of some merit, who for many years resided at Wellington, obtained from the surrounding country specimens of the whole series of gem-stones known to commerce.

Distribution of gems.

MICA.

Mica.

Mica is known to exist in many parts of New South Wales, but has never yet been worked, although there is a considerable demand for the article, especially if in blocks of fairly large size that could easily be split into thin plates. It is to be met with in the numerous granitic areas that occur in various parts of the Colony, especially in the coarsely-crystalline granitic formations in the Silverton District, and elsewhere in the Barrier Ranges. It is known to occur in the Liverpool Range, and in New England.

MARBLE, BUILDING STONES, FIRE-CLAYS, AND SLATES.

The Colony possesses a most abundant supply of all the various kinds of stone, and other materials, for the building and adornment of its cities. Marble limestone is found in great masses near Wallerawang, Bathurst, Marulan, Tamworth, and Kempsey, localities which are all within convenient distance of the great arteries of communication, and it is obtainable in all its different varieties. Marble quarries have been opened at Cow Flat, Marulan, Wallerawang, Orange, and Tamworth, but only those of Cow Flat and Marulan are being worked. Granite is found near Goulburn, Moruya, and Trial Bay, as well as at many other places throughout the Colony. Most of the granite hitherto used in Sydney has been obtained from Moruya, a port about 180 miles south of Sydney.

Marble limestone.

Granite.

The Hawkesbury formation, over which the City of Sydney is built, provides the city with an inexhaustible supply of sandstone, of the highest quality for building purposes. This material is admirably adapted for architectural effect, being of a pleasant colour, fine grain, and very easily worked. The beauty of Sydney street architecture is due in no inconsiderable degree to the free use of this excellent sandstone.

Building stone.

The coal measures also contain numerous beds of fire-clays, and in every part of the Colony excellent clays, well adapted for brick-making purposes, are extensively worked. Slates are found in several districts, but are principally quarried at Gundagai, and in the surrounding district, as well as near Bathurst and Goulburn. It will be seen, therefore, that the Colony has no need to import building material of any description, as it possesses a supply amply sufficient to provide for its own wants and those of its neighbours.

Fire-clays.

Building materials.

PART VII.

Flora.

Australian economic botany.

THE surface of New South Wales presents a vegetation cha
terized by little variation in form and colour. The d
foliage and varieties of tints with which the old world is fami
are alike wanting in Australia, where the dull evergreen lea
alter little with the changes of the seasons. What the flora of
country lacks in picturesqueness it, however, makes up in use
ness. The task of collecting, describing, and classifying
Australian flora has been undertaken by several eminent scienti
amongst whom are Bentham, Müeller, and Hooker. The "Fl
Australiensis" of the first-named botanists, Hooker's "Fl
of Tasmania," the "Census of Australian Plants," and
"Eucalyptographia" of Baron von Müeller, are works of stand
value. In dealing, however, with the description of the var
specimens of plant life found in Australia there remained the t
of describing those species whose properties rendered them capa
of application to industrial life. To Mr. J. H. Maiden, of
Sydney Technological Museum, the Colony is indebted for
excellent classification of those varieties which properly belong
Australian economic botany. The number of specimens so
described in each class will be found below, and it will proba
appear to many as a revelation that the country should poss
resources so varied and elements of wealth so promising, and
the same time so singularly neglected.

Classification of Australian plants of economic value :—

Classification of Plants.	Number of varieties.
1. Human food and food adjuncts	212
2. Forage plants—	
a. Grasses	158
b. Exclusive of grasses, and including plants injurious to stock	92
3. Drugs	123
4. Gums, resins, and kinos—	
a. Gums	40
b. Resins	21
c. Kinos	39
5. Oils—	
a. Volatile or essential	47
b. Expressed or fixed	10
6. Perfumes	14
7. Dyes	35
8. Tans	87
9. Timbers	630
10. Fibres	67
11. Miscellaneous	38
Total	1,613

It does not come within the scope of this volume to deal at length with a subject so comprehensive as economic botany; it may, however, be pointed out that beyond some of the timber trees and a very limited number of oils and tans, few of the resources of the Colony disclosed in the foregoing list have received any practical application.

Forests extend over almost the whole area of the Colony, excepting portions of the Monaro, the Lachlan, and the Murrumbidgee districts, where extensive treeless plains occur, clothed with salt-bush, scrub, or varieties of natural grasses. The country covered by timber may be divided into three classes—open, brush, and scrub forests. Open forests cover the greatest portion of the surface of the Colony, and are found in every formation. The varieties of trees met with are chiefly species of the Eucalyptus tribe, and Melaleuca, Callistemon, and other genera of the order Myrtaceæ. Forests.

Prevalence of eucalypti.

The prevalence of the eucalypti, and the large extent covered by the forests, give the country a rather monotonous aspect. But the park-like appearance of the open forests and the beauty of the many flowering shrubs win admiration, in spite of the sameness of the trees; while even the dull, greyish blue of the foliage of the gum-trees, when relieved by the yellow blossoms of the wattle, the graceful myall, or the beautiful and shapely kurrajong, is not without its attractiveness. The trees are for the most part straight and cylindrical in the trunk, and when full grown, their first branch is at a considerable height from the ground. The roots of the eucalyptus lie at no great distance from the surface soil, an adaptation of nature to the peculiar climatic conditions of the country. The finest specimens of most of the timber trees, those yielding the most valuable timber, are found on ridges and hill sides, in places frequently too rough and stony for cultivation. This circumstance is in many ways fortunate for the Colony. In the course of settlement, when the rich plains are denuded of their trees, and when scarcity will make timber more appreciated than it is at present, land not adapted for agricultural settlement will still be available for the cultivation of the finest trees. It would be impossible, in the limits of this volume, to enumerate all the trees which are of commercial value; but a list of the best known varieties will not be without interest.

Chief varieties of timber trees.

On the river flats immense specimens of flooded gum *(E. rostrata)* and apple-trees *(Angophora subvelutina)* mark the course of the streams. The flooded gum grows to a height of 100 feet, and its wood is most useful for heavy work, and for structures liable to attack by the white ant. The apple-tree has more spread than the majority of indigenous trees, its wood is strong, heavy, and durable. The distribution of the species is very extensive.

On the ridges and mountain sides other varieties of trees predominate. The box reaches 180 feet in height, with a thickness of 6 feet, and the timber is used chiefly for firewood, for which purpose it has no superior. The bastard box, supposed to be a cross between the box and grey gum, is widely distributed over the Colony. The quality of the timber varies greatly, according to the place of growth; some varieties are surpassed amongst hard woods by nothing except ironbark.

Ironbark.

Ironbark (*E. leucoxylon* and *E. paniculata*) is a tree of moderate size, usually when full grown from 60 to 80 feet in height, though the white ironbark attains a height of 150 feet. The timber is heavy, and renowned for its great strength, fine specimens bearing a tensile strain nearly twice as great as the best oak. The timber is used most extensively for wharves and bridges, as also for housework. Ironbark is very widely distributed, and frequently grows to perfection on the poorest soil. The ironbark and box are slow growing trees, as compared with many other varieties of eucalyptus, such as the blue gum, which latter attains a great height in a very few years.

Blue gum.

The blue gum (*E. globulus*), one of the finest of the eucalyptus tribe, is only met with in portions of the southern table-land, but the blue gum (*E. goniocalyx*), also called flooded gum, grows extensively in the coastal districts. It attains a moderate height but is rather thicker in the trunk than most varieties of gum trees, sometimes reaching 7 feet in diameter. The timber is greatly in demand, owing to its comparative lightness, and is easily worked, being used for all purposes to which hardwood is applied.

Spotted gum.

The spotted gum grows in all the coast districts, and in some portions of the interior, generally where the soil is poor. This is one of the handsomest of the forest trees, and attains a height of 100 feet. The quality of the wood varies greatly, according to the habitat and the character of the soil; when good, it is considered specially adapted for ship-building.

Stringybark.

Stringybark, so called from its peculiar fibrous bark, grows chiefly on the northern table-lands. It is a large tree, and its wood is of great and general utility. The bark is extensively used for roofing, and forms a very useful paper-making material.

The messmate *(E. obliqua)*, also called stringybark, is one of the largest of Australian trees, being frequently met with more than 250 feet in height. It grows in the south-eastern portion of the Colony. The bark is used for roofing, being similar in character to that of the tree just described; it would also form an excellent paper-making material.

Blood-wood.

The blood-wood is a large tree, growing in the coastal districts of the Colony. The timber is used chiefly for fencing purposes, and for railway sleepers.

Grey gum.

The grey gum *(E. tereticornis)* grows to a height of 150 feet, and is extensively distributed over the whole of the coastal districts. It yields excellent timber, hardly inferior to ironbark. There are several varieties of this tree, some of which produce wood of remarkable beauty, and of great durability.

Tallow-wood.

The tallow-wood is a very large tree, growing extensively in the forests north of Sydney. Its wood is more easily wrought than most of the hardwoods, and has great strength and durability, being employed largely for floors, and other building purposes, and for the decking of ships.

Mountain ash.

The mountain ash, or white-top, is found both on the table-lands and in the coast districts. Its timber is in demand for coopers' work, and for rough carpentry. The tree grows to about 150 feet in height.

Turpentine tree.

The turpentine tree *(Syncarpia laurifolia)* is found mainly in the district lying between the Shoalhaven and the Macleay. It grows to magnificent proportions, sometimes reaching a height of

200 feet, with a diameter of 6 feet. The timber is largely used for piling, and other work in sea-water, as it resists the attack of the teredo better than any other New South Wales timber.

BRUSH FORESTS.

Features of brush forests.

The brush forests cover a considerable extent of country along the coast. The trees found in them differ entirely from those of the open forests, and there is no lack of variety either in the character of the trees or the colour of their foliage. Tall graceful fern trees, sometimes attaining a height of 60 feet, beautiful varieties of palms, cabbage-trees, and Moreton Bay figs of enormous proportions, are prominent features of the brush, though these are perhaps more ornamental than useful. There are, however, found in the brush forests timber trees of the greatest value.

Red and white cedar.

The red and white cedar (*Cedrela toona* and *Melia composita*) were once abundant in the northern forests, but at present most of the full grown trees are met with only on the high ridges. The red cedar is a magnificent timber tree, often attaining a height of 150 feet, with a girth of over 30 feet. Its timber is of great value, being light, easily wrought, durable, splendidly grained, and well adapted for furniture and cabinet-making. The white cedar is a pretty tree growing to a height of 80 feet, with a diameter of 3 feet. Its timber is soft and easily worked, but is deficient in tensile strength and durability, and therefore in no great demand.

Silky oak.

The silky oak grows to the height of almost 100 feet, under favourable circumstances, and yields a wood highly prized for staves.

Tulip-wood.

The tulip-wood is a tall tree with beautifully marked timber of various shades, and susceptible of a fine polish.

Ash.

The ash, or pigeon berry-tree, grows to a great height, sometimes reaching 130 feet, with a diameter of 5 feet. Its timber is light and tough, and in good demand.

Colonial pine.

The colonial pine *(Araucaria Cunninghamii)* is one of the finest trees of Australia, sometimes reaching a height of 200 feet, with a trunk 5 feet thick. Its timber is extensively used, being cheaper than any imported pine; it is white in colour and easily wrought.

Beech.

Native beech is also a tree of noble proportions, reaching 150 feet in height. Its timber is greatly in demand, being superior to most native timber when exposed, as it neither shrinks nor warps. In colour the wood is white or silvery, with a fine close grain.

Besides the varieties mentioned above, there are in the brush forests many other trees, yielding timber of large size and of great value, but the abundance of timber of other descriptions more readily accessible, has hitherto satisfied the local demand, and the resources of these forests have been almost entirely overlooked.

Great variety of timber in brush forests.

The character of the vegetation of the brush forests alters considerably according to the latitude. The trees of the Araucaria and Flindersia tribes, as well as the principal varieties of cedar, find a home chiefly in the northern parts of the Colony, while many of the trees growing in the south have no representatives in the northern forests. The soil of the brush lands is wonderfully fertile, consisting as it does of decomposed volcanic rocks, enriched by the accumulation of decayed vegetable matter, and when cleared it yields an abundant return.

SCRUB FORESTS.

The scrub forests are found in the poor soils, principally in the Lachlan and Darling districts. The chief species represented are the pine, the acacia, and the eucalyptus, but although some of the trees are of great beauty, they have little commercial value. The most uninviting portion of the Colony is covered with scrub, and the mallee districts, clothed as they are with stunted timber—a variety of the eucalyptus—impress the traveller more unfavourably than would even a barren waste.

Dividing the timber trees of New South Wales into the natural divisions of hardwoods, softwoods, and pinewoods, the largest portion, both as to the variety of trees and the area covered by the forests, comes under the first-mentioned class. All the trees already referred to as growing in the open forests are hardwoods; and besides those described there are many others, of recognized commercial value, which are extensively used.

Hardwoods.

Australian hardwood trees are remarkable for the great size of the beams which may be obtained from them, as well as for the extreme toughness and durability of their wood. In a subsequent table the mean strength of various timbers is given, from which it will be seen that the grey ironbark has a resistance to breaking equal to 17,900 lb. per square inch, as compared with a mean of 11,800 lb. for English oak, and 15,500 for teak. None of the other timbers has so high a resistance to breaking as this description of ironbark, but nearly all the varieties have a greater strength than oak. As already pointed out, the quality of the wood is materially influenced by the soil on which the trees grow, and the resistance to breaking shown in the subsequent table is the average of various samples, the range in some woods being considerable. The absence of branches for the greater portion of the height enables the timber to be obtained to the best advantage; and as full-grown trees of most varieties are rarely less than 100 feet high, with corresponding girth, the quantity of timber obtainable is very large.

Softwoods.

Beauty of brush timber.

The softwoods of the Colony are found chiefly in the brush forests of the coast district, and rival those of any other part of the world. Some of the least known of the brush forest trees have wood grained and marked most beautifully, which is capable of receiving the highest polish, while others are fragrantly perfumed. These woods are adapted to the finest description of cabinet-making, and it is strange that their merits should have so long escaped attention. Amongst the chief varieties of woods of this class may be mentioned the red cedar, now unfortunately disappearing, the beautiful wood of which, somewhat resembling mahogany, is admirably adapted for the finer kinds of cabinet-makers' work. Some of the cedar trees grow to immense size, as much as 2,500 cubic feet of valuable timber having been obtained from one tree. In addition to the cedar may be mentioned rosewood, tulipwood, yellowwood, white maple, white beech, myall, marblewood, mock orange, and many others. Besides their use for cabinet-making, many of the brush timbers are of great utility for the rougher kinds of carpentry, while some, both hard and soft woods, are admirably adapted for coachbuilders' and coopers' work.

Pinewoods.

The chief description of pine growing in New South Wales is the Moreton Bay white pine, found in the coast districts, as far south as the Bellinger. It is soft, light, and easily wrought, and suitable for all the interior wood-work of houses, as well as for cabinet-making. The red or black pine is extensively distributed over the Liverpool Plains, and in the Lachlan and Darling River districts, as well as around Berrima. It is beautifully marked in the grain, takes a fine polish, and has an agreeable fragrance. There are numerous other varieties of pine, but these resemble in their main features the trees already described.

Colonial deal is an excellent timber, and is obtained in very large scantling, the tree frequently reaching 120 feet in height. It is soft, close-grained, easily wrought, and remarkably free from knots. Its use, therefore, is extensive for cabinet-makers' work and house fittings.

Importation of timber very large.

Notwithstanding the great resources of the Colony as a timber-growing country, the importation of wood is very considerable. In 1889 the quantity amounted to 13,431,000 feet of dressed timber, valued at £110,900, and 53,323,700 feet of undressed, valued at £297,400; besides which there were sundries to the value of £8,348, the total value of timber imported being £416,700.

Importation of timber.

The importation of timber is chiefly from the United States, New Zealand, Great Britain, British Columbia, and Scandinavia.

From the western sea-board of the United States the Colony receives its largest supply, the importations during 1889 amounting to 1,898,067 feet of dressed, and 16,636,204 feet of undressed, or rough timber, a quantity equal to over 30 per cent. of the whole. This timber is chiefly what is known as Oregon pine. Next to the United States comes New Zealand, from which the Colony received 1,095,589 feet of dressed, and 15,443,724 feet of undressed, timber—mostly kauri pine. From Norway the Colony received 2,510,289 feet of undressed, and 935,765 feet of dressed timber.

Exportation of timber.

The export of colonial hardwood is relatively small as compared with the timber imported. During the year 1889, 206,469 feet of dressed timber, valued at £1,968, and 24,306,206 feet of rough or undressed, valued at £100,004, also sundries to the value of £742, or a total value of £102,714, were exported.

Exports.

During the seven years which closed with 1889, the exports of New South Wales timber were :—

Year.	Dressed Timber.	Undressed Timber.
	Feet of 1 in. thick.	Feet of 1 in. thick.
1882	132,894	5,771,868
1883	218,517	8,611,237
1884	320,093	14,239,211
1885	203,930	9,777,797
1886	133,973	13,255,804
1887	179,572	15,541,220
1888	255,889	32,519,134
1889	206,469	24,306,206

It will be seen that the quantity exported varied greatly; this is entirely due to the fluctuation in the amount taken by Victoria. In the years 1884–9 large public works were being executed in that colony, requiring considerable quantities of hardwood, which was more readily procurable from New South Wales. Out of a total export of 14,239,211 feet of undressed timber in 1884, Victoria took 11,170,536; in the following year out of 9,777,797 feet 6,696,653 feet went to Victoria; during 1886, 10,553,955 feet were taken by that colony, out of a total export of 13,255,804 feet. In 1887 Victoria took 11,165,833 feet, the total export being 15,541,220; in 1888, 26,465,056 feet out of a total of 32,519,134 feet of undressed timber exported; and in 1889, out of 24,306,206 feet she took 20,463,678 feet.

Intercolonial exportation.

No necessity to import timber.

As already pointed out, although the Colony is endowed with great wealth of timber, not only of hardwood but of softwood and pine, the imports very largely exceed the exports. The imports, however, are chiefly pine and softwood. The pine grown in the Colony is in some respects inferior to both oregon and kauri, hence the large importation of these timbers, but the softwoods of the country will bear favourable comparison with those of any part of the world, both for durability and beauty. They are easily wrought and well adapted for the finer kind of carpentry and cabinet-work, and it is only because they are so little known that the softwoods of the 'brush forests have not been more extensively used.

Strength of N.S.W. timber.

The specific gravity and resistance to breaking of various New South Wales timbers, and of some of the best known European and other varieties, are shown in the following table. With regard to the New South Wales timbers it should be mentioned that the tests were made with picked specimens, so that the results are perhaps considerably higher than would be obtained in actual practice. The modulus of rupture is eighteen times the load which is required to break a bar 1 in. square, supported at two points 1 foot apart, and loaded in the middle between the points of support, or

$$s = \frac{3\,W\,l}{2\,bd^2}$$

when W = load applied at middle of beam between supports; b = breadth d = depth l = length of beam, and s = co-efficient of rupture or breaking stress per square inch.

Specific Gravity and Strength of New South Wales Timber, as compared with European and other Varieties of Timber.

New South Wales timber trees	Specific gravity.	Resistance to breaking or modulus of rupture. = S	European and other Foreign timber trees.	Specific gravity.	Resistance to breaking or modulus of rupture. = S
		lb. per sq. inch.			lb. per sq. inch.
Hardwoods—					
Spotted gum	·995	13,300	Ash	·753	13,000
Grey gum	·917	13,100	Beech	·690	10,500
Flooded gum	1·178	14,800	Birch	·711	11,700
Red gum	·995	6,900	Bullet-tree	1·046	19,000
Woollybutt	1·022	12,700	Chestnut	·535	10,660
Blackbutt	1·067	13,700	Ebony	1·193	27,000
White ironbark	1·177	16,900	Elm	·544	7,900
Grey ironbark	1·182	17,900	Fir, Red pine	·48 to ·70	8,300
Red ironbark	1·224	16,300	,, Spruce	·48 to ·70	11,100
Forest oak	1·208	15,500	,, Larch	·50 to ·56	7,500
Turpentine	1·109	11,700	Greenheart	1·001	22,000
Stringybark	1·141	13,900	Kauri pine (New Zealand)	·579	11,000
Blackwood	1·129	10,300	Lance wood	·675 to 1·01	17,350
Tallowwood	1·233	15,260	Lignum vitæ	·65 to 1·33	12,000
Australian teak	1·006	14,400	Mahogany (Honduras)	·56	11,500
Mahogany	1·201	14,500	,, (Spanish)	·85	7,600
Forest mahogany	1·156	13,800	Oak (British)	·69 to ·99	11,800
Swamp mahogany	1·216	12,100	,, (Dantzic)	·69 to ·99	8,700
White beech	1·008	15,600	,, (American)	·99	10,600
Mountain ash	1·065	11,500	Sycamore	·59	9,600
Rosewood	1·189	10,600	Teak (Indian)	·66 to ·88	15,500
Pine	·868	8,800	Willow	·40	6,600

FOREST CONSERVATION.

Destruction of timber.

The necessity of preserving the timber resources of the Colony, and preventing the ruthless destruction of the best species of brush and hardwood, hitherto carried on by settlers and timber-getters, principally in the Clarence River district, and in the eucalyptus forests on the Murray, decided the Government, in 1871, to establish a certain number of forest reserves throughout the country, in which permission to cut timber should be granted upon payment of a fixed fee. It soon became apparent that stringent regulations alone could put a stop to the reckless operations of the licensed timber-getters, but it was not until September, 1878, that such regulations were issued. These appeared not a day too soon, as the best species of cedar, which abounded in the Clarence River districts, had been exploited to such a wasteful extent that the supply of this magnificent timber threatened to give out. Cutting down indiscriminately trees of all sizes, and clearing the lower lands of their best timber, the cedar-cutters, after disposing of all that could be cheaply transported, or easily floated down the rivers in time of flood, left a considerable surplus of felled timber on the ground to lie and rot. They then travelled further north, to carry on the same depredations along the rivers of the neighbouring Colony of Queensland. The same system had been pursued in the gum forests of the Murray. Considerable quantities of excellent timber were destroyed in the forest reserves of that part of the Colony, to the detriment of the district, which was deprived of its natural wealth, and to the injury of the Colony at large, which suffered the loss of much of its best timber without receiving an equivalent in revenue.

Forest Conservation Branch formed.

In 1875 the office of Forest Ranger was first created, and this led to the formation of a Forest Conservation Branch attached to the Department of Mines, which was established in March, 1882. During the year 1889, however, the Forest Conservation Branch was placed under the administration of the Colonial Secretary. In the year 1882 the Colony was subdivided into number of districts. These are frequently inspected by forest angers, whose duty is to report on the existing state of pro-laimed reserves, control the operations of licensed timber-getters, receive royalties on the various kinds of timber, upon which such dues may be levied, and report upon applications to ringbark trees on Crown lands, whether comprised in State forests, reserves, or otherwise. The forest rangers and assistants employed by the department have the supervision of twenty-one State forests with an area of 97,724 acres. The timber reserves throughout the Colony number 897, and cover an area of 5,545,665 acres, so that the total area of land devoted to the conservation of timber in New South Wales amounts to 5,553,389 acres. In April, 1890, Mr. J. E. Brown, of South Australia, was appointed Director-General of Forests of New South Wales.

Forest rangers.

Timber obtained from reserves.

On the reserves subject to royalty, the quantity of timber cut in 1889 amounted to 16,225,207 superficial feet, besides 1,972 trees for piles and other purposes. In 1888 the quantity of timber cut measured 19,679,069 superficial feet, in addition to which there were 933 trees felled.

Revenue from timber licenses.

The revenue derived from the issue of timber licenses, from royalty, permits, and other dues, amounted in 1889 to £16,521, and the revenue received from the forest reserves of the Crown since the coming into force of the regulations proclaimed on the 24th of September, 1878, in each of the following years was—

	£
1879	7,310
1880	8,328
1881	10,156
1882	12,327
1883	16,301
1884	17,565
1885	13,144
1886	13,934
1887	13,629
1888	19,019
1889	16,521

r a total for 11 years of £148,234, which, before the introduction of the present system, would have been a loss to the country, without taking into consideration the much greater loss caused by the indiscriminate felling carried on in former years.

Girth of timber which may be felled.

Under the present regulations care is taken to preserve from destruction all timber below a certain girth, measured at a height of 5 feet from the ground, according to a careful classification of the various timbers at present in demand. Trees not named in this list may be cut at the minimum girth that may be endorsed on the license, or as specified in writing by the forest ranger in charge of the reserve.

The prescribed girth is set forth hereunder:

Hardwoods.

Timber.	Girth. ft.	in.	Timber.	Girth ft.	in.
Blackbutt	7	6	Blood-wood	6	0
Tallow-wood	7	6	Mountain ash	6	0
Red gum or flooded gum	6	6	Mahogany (forest)	6	0
Gray gum	6	6	*Ironbark (red, gray, and broad-leaved)	6	0
Woollybutt	6	6	Peppermint or red-wood	5	6
Brush or white box	6	6	Swamp mahogany	5	6
Turpentine	6	6	*Stringybark	5	0
Blue gum	6	0	Blackwood	4	0
Spotted gum	6	0	Yellow and white box	4	0
Messmate	6	0			

Softwoods, &c.

Timber.	Girth. ft.	in.	Timber.	Girth ft.	in.
Red cedar	9	0	Black, red, or white pine (Frenela)	3	0
Hoop or Moreton Bay pine	7	6	Swamp oak	3	0
White beech (Gmelina)	7	0	Forest oak	2	3
Silky oak	6	0			
Rosewood	6	0			

* West of Great Dividing Range, 4 feet.

State nursery and cultivation of trees.

The operations of the Forest Conservation Branch are not solely limited to the preservation of native trees. It is also charged with the creation of a State nursery, the site for which was selected at Wyong, in the beautiful district of Brisbane Water, where the acclimatization of valuable foreign timber trees, and the conservation of such of the best indigenous species as might be otherwise likely to disappear, are attended to. Some 50,000 trees are now ready for planting out, and about 150,000 will be available for the winter and spring of 1891. During 1889, 1,516 trees were planted on Hogan's Bush Plantation, but none on e Orara, Dorrigo, or Macleay River reserves. The formation f plantations in various parts of the Colony, and along railway lines, also forms part of a programme which is yearly becoming enlarged. In the forest reserves of Orara and Dorrigo, in the north-eastern district of the Colony, cedar planting has been carried on for some years, under departmental supervision, and up to the end of 1888, 24,978 trees and root-cuttings of cedar trees, and self-sowing seedlings, had been counted in the latter reserve. Plantations of the American *Catalpa speciosa* were also made on the Railway Reserve at Cootamundra, where there are about 2,713 catalpa, black walnut, and other trees planted on the 6¼ acres cleared, and wattle plantations have been formed along the southern railway line from Minto to Barradoo. The total number of cedar trees planted to the end of 1889 was about 30,000, in addition to which a great many plants have been raised from seed.

Plantations in forest reserves.

The Forest Conservation Branch has collected a large number of varieties of indigenous timber trees, which were placed on view at the London Colonial and Indian Exhibition; and a second collection consisting of several hundred specimens of different kinds of colonial timber is now exhibited in the Geological Museum attached to the Department of Mines.

State forests and timber reserves.

Reserves for the preservation of timber are divided into two classes, viz., State Forests and Timber Reserves, and the latter are subdivided into three sub-classes, A, B, and C, according to their importance, and the particular quality and value of the timber which they contain.

Timber licenses and permits

Licenses are issued to cut timber on reserves in class A at a ked fee of £6 per annum, or 10s. per month, and without royalty; n reserves in class B the fee demanded amounts to £9, or 15s. r month; on reserves in class C general permits to cut timber r saw-mills are issued at a rate of £6 per annum, to which is lded the payment of a royalty, which differs according to the value of the timber felled, and is based on the following classification:—

Saw-mill timber	placed in the	1st class,	1s. 6d.	per 100	superficial feet.
,,	,,	2nd ,,	1s.	,,	,,
,,	,,	3rd ,,	9d.	,,	,,
,,	,,	4th ,,	6d.	,,	,,
,,	,,	5th ,,	3d.	,,	,,

Timber-cutting on Crown lands.

Licenses are also issued to cut and remove timber on ordinary Crown lands—excepting State forests, timber reserves, reserves for public recreation, or sites for towns and villages, or permanently dedicated for any public purpose; also lands within 1½ chain of any navigable river, or held under conditional lease, measured for sale, within an enclosure of less than 200 acres, or within half a mile of a head station. The fee in this case is fixed at £3 per annum, or 15s. per quarter, or 5s. for any current month, and the license enables the holder to cut and remove any kind of timber, except cedar. The license fee for cutting cedar, and for shipping wattle-bark, is fixed at £6 per annum, and no cedar-tree of less girth than 9 feet, measured at 5 feet from the ground, may be felled without special authority.

Permits to cut and strip bark.

Permits are issued for cutting mining props, and for thinning out timber, in order to improve the growth of the trees remaining; for cutting and removing from a reserve a specified number and kind of trees; and also for stripping wattle-bark, or the bark of other trees for tanning purposes.

Penalties.

Infringements of the timber regulations are punishable by fine, not exceeding £5 for the first offence, £10 for the second, and £20 for the third, irrespective of the value of the timber and material destroyed, for which also the offender may be held responsible.

PART VIII.

Fauna.

THE fauna of New South Wales is characterised by the absence of the forms of animal life familiar to the Old World, and the presence of genera and species peculiar to the Australian Continent.

MAMMALIA.

The order of mammalia is represented in this Colony by the oldest animal known, the marsupial, which is extinct in all other parts of the world except North America. The Macropidæ include several kinds of kangaroos and wallabies, the characteristics of which are too well known to need more than passing reference. The progress of settlement has driven these animals from the more densely populated parts of the Colony, but in the country districts they are still numerous enough to cause very considerable damage to the natural grasses. So serious has been the injury thus wrought, that the State and run-holders pay a small sum per head for the destruction of these animals. The number of kangaroos and wallabies, as estimated by Inspectors of Stock, existing in the Colony in 1889, was about 4,102,000, and no fewer than 495,670 kangaroos and 642,780 wallabies, a total of 1,138,455 animals, were destroyed during the year 1889.

Number of kangaroos, &c.

The genus Paramelidæ is represented by the wombat, and several kinds of rats and rabbit-rats, which latter burrow underground like their European prototype. They abound particularly in the western districts.

Phalangystæ.

The Phalangystæ, which embrace several varieties of opossums, are found in all parts of New South Wales. Some of the specimens of this family are very handsome, and their thick soft furs afford a valuable article of commerce.

Dingo.

The dingo, or native dog (*Canis Dingo*), is found in all parts of the Australian mainland. It will inbreed with the domestic dog, and crosses are common throughout the settlements. The dingo does not bark, and, according to Dr. Geo. Bennett, it is allied to the wild dog of India, and may probably have been introduced by the Malays some centuries ago. Great destruction has been wrought amongst the flocks of the settlers by these animals, and a price is paid for every native dog destroyed.

Native Cats.

There are two varieties of native cats (*Dasyurus Maculatus* and *D. Viverrinus*), both very handsomely marked. They are nocturnal animals, incapable of domestication, and prey upon birds and small mammals.

Echidnæ.

The Echidnæ are represented by several varieties of spiny ant-eaters, somewhat resembling the English hedgehog. The favourite food of these animals is the various kinds of ants, which are found all over the country. The female Echidna carries its young in a pouch, which is only visible during the breeding season.

Flying foxes, and numerous varieties of bats, are also indigenous to New South Wales, and make great depredations among the fruit-trees.

Platypus.

Of all the animals found in the Colony the most curious and interesting is, perhaps, the *Ornithorhynchus paradoxus*, or Duck-billed platypus, called by the aborigines the Mallangong or Tambreet. This animal is a mammal, and has now been authoritatively shown to be also oviparous. The eggs brought forth are membranous, so that the platypus must be classed amongst the Reptilia.

Most of the animals above mentioned appear to be more destructive than useful, and if we except the trade in opossum and native-cat furs, and kangaroo skins, the commercial value of the indigenous mammals is very small. They are being gradually displaced, as civilisation advances, by the more useful animals of the Old World, for which the climate of New South Wales seems especially adapted, and which now form the principal source of the wealth of its inhabitants. The acclimatisation of the more useful European species quickly follows the destruction of indigenous animals, and the wilds of the interior of the Colony, which erstwhile were the abode of the kangaroo and dingo, are now the home of vast flocks.

Destruction of native animals.

Extinct species.

Geological research has brought to light the remains of numerous extinct species of gigantic mammalia. The largest of these prehistoric animals was the *Diprotodon*, a marsupial quadruped, which, according to Professor Owen, was as large as the rhinoceros or hippopotamus. Fossil remains of another large marsupial, the *Nototherium*, somewhat resembling a tapir, and of a marsupial lion (*Thylacoleo*) have also been discovered. Bones of gigantic kangaroos (*Macropus titan*) have been frequently met with, as well as those of a species of wombat larger than that actually in existence.

The remains of animals belonging to two distinct genera, representatives of which still exist in Tasmania, the *Thylacinus*, or pouched hyena, and the *Sarcophilus*, more commonly known as the Tasmanian devil, have also been found in the fossilised state.

BIRDS.

Variety of birds.

All the more important families of birds are represented in the fauna of New South Wales, which contains also a number of families peculiar to the Colony. Few countries can boast of a greater variety of beautiful birds. The parrot family is represented by a large number of species, including the love bird, the green parrot, and many kinds of lories, all gorgeously clothed; and amongst the larger species, the white and black cockatoo, yellow and pink-crested, and the grey pink-crested gallahs. The family of honey-eaters *(Meliphagidæ)* is also represented by numerous and very beautiful varieties.

Amongst the larger kinds of birds found in the Colony are the *Megapodidæ*, which includes the brush turkey. These exist in great numbers in the western parts of the Colony, and their flesh is highly prized. In the western districts are also found the emu, the largest of Australian birds, and the native companion, a large water bird, somewhat like the crane in appearance.

Emu.

In the more thickly-timbered parts of the brush forests, the home of the stately tree-fern, is found the lyre-bird *(Menura superba)* a species of pheasant, whose tail forms a most graceful ornament. Here also abound the satin-bird, species of regent-birds, and the rifle-bird, all famed for the beauty of their plumage.

Aquatic birds.

Amongst water-birds are several species of cranes, and enormous numbers of wild fowl of all descriptions, as well as black swans. The latter is essentially an Australian bird, and may be met with in all parts of the Colony. The great kingfisher, or laughing-jackass, so named from its extraordinary cry, is one of the most useful of birds, owing to the readiness with which it destroys snakes. Magpies and mocking-birds may be included amongst those denizens of the forest which more prominently attract the attention of travellers. There are also several species of owls, and other night-birds, and the eagle family has not a few representatives.

The kingfisher.

The pigeon tribe.

The pigeon tribe is found in large numbers, especially in the great primæval forests of the coast districts. In the cedar brushes of the Liverpool Range white-headed fruit pigeons are very numerous; and in the brush forests of the Clarence, the Richmond, the Macleay, and Illawarra, the top-knot and large-tailed pigeons, and the Wonga Wonga *(Leucosarcia picata)*, so prized for its large size and the whiteness and delicacy of its flesh, are very plentiful. The bronze-winged pigeon is common to almost all parts of the Colony. Several varieties of these birds are remarkable for their beautiful plumage, their size, and the excellence of their flesh. One of the finest varieties, the partridge bronze-winged pigeon, is found almost exclusively in the plains of the interior. Doves are also numerous, and most of the species are extremely delicate and beautiful. The little turtle-dove of the Murray River *(Geopelia cuneatra)* is the prettiest specimen of this family.

Other varieties.

Besides the varieties of birds mentioned above there are others, of perhaps less note, but numerous, and frequently very beautiful. They are all admirably described and depicted in the celebrated work of Dr. Gould, which occupies a high rank amongst the scientific publications of the century.

FISHES.

Fishing industry neglected.

The seas which wash the shores of New South Wales abound with fish, but none of the resources of the Colony has been so much neglected as the fishing industry. All the best fishing-grounds lie within a moderate distance of Sydney, and, as recently pointed out by the Fisheries Commission, it is not necessary, in order to obtain the fish most adapted for food, to despatch large smacks or fishing vessels, victualled and equipped for a cruise of several months, to fishing grounds distant hundreds of miles from home. The coast of the Colony presents many natural features peculiarly favourable to the existence of a very large supply of the best food fishes. In the quiet waters of its numerous bays and estuaries, and in the vast lakes and lagoons communicating with the sea, are found shelter and sustenance, as well as excellent breeding-grounds. The principal fishes found on the coast are not migratory, and as a consequence may nearly always be procured in the market.

Classification of fishes.

Sixty different families of fishes comprising 348 species are found in New South Wales waters. According to the classification of the late Rev. J. S. Tenison-Woods, S. J., these are as follows:—

Name of family.	No. of species.	Name of family.	No. of species.
Percidæ	50	Ophiocephalidæ	1
Squamipinnes	4	Trachypteridæ	1
Nandidæ	2	Pomæcentridæ	4
Mullidæ	3	Labridæ	18
Sparidæ	14	Gadopsidæ	1
Cirrhitidæ	6	Gadidæ	4
Scorpænidæ	11	Pleuronectidæ	9
Teuthididæ	2	Siluridæ	5
Berycidæ	3	Scopelidæ	6
Kurtidæ	2	Salmonidæ	1
Polynemidæ	2	Galaxidæ	7
Sciænidæ	2	Scombresocidæ	6
Xiphiidæ	1	Clupeidæ	12
Trichiuridæ	1	Chirocentridæ	1
Acronuridæ	1	Symbrachidæ	1
Carangidæ	15	Murænidæ	11
Cyttidæ	1	Syngnathidæ	6
Coryphænidæ	2	Sclerodermi	21
Scombridæ	10	Gymnodontes	12
Trachinidæ	5	Carcharidæ	8
Batrachidæ	1	Lamnidæ	1
Pediculati	4	Scyllidæ	3
Cottidæ	7	Cestraciontidæ	2
Cataphracti	1	Spinacidæ	1
Gobiidæ	15	Rhinidæ	1
Blenniidæ	17	Pristiophoridæ	1
Sphyrænidæ	3	Rhinobatidæ	2
Atherinidæ	4	Trygonidæ	3
Mugilidæ	7	Torpedinidæ	1
Fistularidæ	1	Raiidæ	1

The edible fishes comprise 105 different species; amongst the best known may be mentioned:

The schnapper.

The schnapper *(Pagrus unicolor)*, the most valuable of all Australian fishes, is found along the whole extent of the coast, and is very abundant. It is a deep-water fish, found generally near rocky points or reefs running out into the sea. The schnappers "school," as it is termed, during the summer months, and are then most plentiful. The young fish, known as red bream, frequents the harbours and estuaries of the coast, but is never found in shallow water. The schnapper is caught by the hook, which it takes freely, as it will attack almost any bait. It sometimes attains a very large size, weighing as much as 30 lb.

Nannigai.

The nannigai is a deep-water fish, caught with the hook, and ranks high in public estimation as an edible fish. The supply is not large, as the fish is not specially sought after, being chiefly obtained by fishermen in search of schnapper. The nannigai is scientifically interesting as one of the oldest forms of bony-fishes now surviving.

Rock-cod.

The black rock-cod is considered one of the best of Australian fish, and is also a deep-water fish, never captured by the net. It is found more abundantly in the warmer waters of the north of the Colony, where, as a rule, it attains larger proportions than to the southward of Sydney. It grows to a great size, specimens from 35 to 40 lb. being not uncommon.

A fish of great size and beauty, known in Australia as the salmon, is found off the coast in prodigious quantities. It has no affinity whatever to the true salmon, and is inferior as an article of food.

The flathead, a fine fish, of which there are several varieties, is captured both by the hook and net. It is of excellent quality and ranks high amongst New South Wales fishes.

Whiting.

There are four species of whiting found in these waters. The common sand-whiting and the trumpeter-whiting are both very abundant, but the other two species are more rare. The sand-whiting is perhaps the fish most in demand in the metropolitan markets, where it is to be obtained all the year round.

Jew-fish.

The jew-fish is the largest edible fish found on the New South Wales coast, attaining sometimes a length of 5 feet. It is found at all seasons, but most frequently during summer. The teraglin is of the same family as the jew-fish, though it does not reach an equal size. The air bladder is large and of excellent quality, being of great value for the making of isinglass.

The mackerel is obtained in enormous quantities off the coast, and sometimes even in the harbours. It is a good fish when eaten fresh, but it decomposes rapidly.

Mullets.

The family of *Mugilidæ*, or mullets, is well represented in Australian waters. The sea mullet is a large fish, often attaining a length of 2 feet, and a weight of 8 lb. It is regarded by some authorities as unsurpassed in richness and delicacy of flavour by any fish in the world; and it visits these shores in countless numbers in the season when it is in the best condition. While young the fish keeps entirely to the creeks and lakes, where it increases in size very rapidly, but when full-grown it seeks the open waters.

Gar-fish.

There are four species of gar-fish found on the New South Wales coast. The Sydney gar-fish is very abundant, especially towards the end of summer, making its appearance in shoals, sometimes of enormous size. The river gar-fish is even of better quality than the last mentioned, but is not so plentiful as formerly. The other species are seldom met with. There are numerous other varieties of fishes found in the waters of New South Wales, many of which are very valuable as articles of food, but for the most part are neither so numerous nor so easily obtained as those referred to.

Destructive fishes.

Destructive fishes are by no means rare; the shark family being largely represented, not only in the deep-sea, off the coast, but even in the harbours. The shark is not, however, absolutely valueless. The fins find a ready sale in the Chinese markets; the skin also has some commercial value, while from the liver is extracted a large quantity of valuable oil, equal in every respect to cod-liver oil.

Neglect of fisheries.

As already pointed out, the fisheries of New South Wales have been much neglected, and, as a further instance of this, it may be mentioned that although during the winter season immense shoals of herrings visit these coasts, no attempt is made to take and preserve them. The Rev. J. E. Tenison-Woods, Sir William Macleay, and the members of the Fisheries Commission, have strongly directed attention to the value of this fish. It is quite as abundant as the herring of Scotland, and superior in flavour; and, preserved like sardines, it would no doubt rival that delicacy. There is ample evidence that the application of a little capital, and intelligent management, would make the herring fishery a very profitable industry.

Fresh-water fish.

In Sydney the supply of fresh-water fish is very limited, although the rivers of the Colony produce some most excellent specimens. The rivers Murray, Murrumbidgee, Lachlan, and Darling are the most plentifully stocked, the Murray cod *(Oligorus Mitchelli)* being perhaps the most highly esteemed of their fishes. Another fish of the same species is the *(Oligorus Macquariensis)*, which is to be met with in the upper branches of the Clarence. Both these specimens of Murray cod have been found weighing as much as 100 ℔. The silver perch and several kinds of the Percidæ family, so highly prized for their delicacy, are plentiful in the rivers. In the Richmond River the cat-fish *(Copidoglanis Tandanus)* is very common, whilst herrings and mullet are caught in almost all the eastern rivers of the Colony.

Fish acclimatization.

Little systematic attempt has yet been made to acclimatize European varieties of edible fishes, although success would most probably attend any efforts in this direction, every difficulty having been overcome in Victoria, New Zealand, and Tasmania. Some five or six thousand trout ova, presented by the Geelong Acclimatisation Society, have been distributed in various localities, including the Prospect Reservoir.

Crustaceæ.

Among the Crustaceæ, which abound on the coast and in the water-courses of the interior, the lobster and several varieties of salt and fresh-water crayfish are most noticeable. The prawn (*Penæus esculentus*) is very abundant in all the shallow bays and harbours.

Oysters.

Oysters are excellent and were very plentiful. The oyster-beds of Port Jackson, Port Stephens, the Hawkesbury, and the Shoalhaven, however, have been greatly injured, and the markets of the metropolis are supplied chiefly from the Clarence, the Richmond, and other northern rivers. Before the appointment of the Royal Commission of Fisheries, in 1880, these molluscs were threatened with extinction in the near future. The Commission has effected some improvement, but has been checked in its operations by defective legislation, and the improvidence of the lessees of the oyster-beds, who strip the beds without any regard to future supply. There is but little doubt that the establishment of "parcs" like those which may be seen along the coasts of France and Belgium, where oyster culture is conducted on scientific principles, would be remunerative, as the demand for this delicacy is great and continually increasing.

Oyster culture.

Remarkable fishes.

Several varieties of fishes which have long disappeared from other parts of the world are still represented in New South Wales. Amongst these are the cestracion, or Port Jackson shark, whose teeth resemble those of the fossil acrodis found in the mesozoic deposits, and the ceratodus, an existing ganoid, otherwise exclusively represented in the trias formation, its anatomy showing a connecting link between a lizard and a fish. Amongst other remarkable fishes found in these waters, several may be enumerated. The frog fish, belonging to the order Pediculati, has fins adapted for walking on the ground rather than for swimming, and is found floating in-shore amongst marine plants, from which it is with difficulty distinguished, owing to its great resemblance to them in point of colour. The hopping fish, a variety of gobii, or sea-gudgeon, has its fins developed into legs, so that the animal is able to leap along the mud flats which it frequents. The eyes of this fish are curiously placed at the top of its head, and are capable of being thrust far out of their sockets, and of moving independently of one another. The Hippocampus, or sea-horse, so named from a resemblance in the shape of the head and fore part of the body to that of the horse, is a very singular fish, but the phyllopteryx is perhaps, the most remarkable fish of Australia, if not of the world. It is like the ghost of a sea-horse, with its winding-sheet all in ribbons around it. Its tattered cerements are in shape and colour like the sea-weed it frequents, so that it hides and feeds with safety. The dugong (*Halicore Australis*) was formerly met with at the mouths of the Richmond, Tweed, and Brunswick Rivers, but is now seldom seen south of the Brisbane River, in Queensland. It resembles the porpoise in shape and size, but has no dorsal fin. The skin is heavy and thick, and is said to make excellent leather.

The habits of this animal are those of a graminivorous ruminant, its stomach being exactly like that of an ox; it frequents the flats and shallows along the margin of the shore, and feeds upon the grass which is found thereon. Like the whale family, it suckles its young, is warm-blooded, and therefore is incorrectly described as a fish. The dugong attains a large size, sometimes measuring 14 feet long and 10 feet in girth. An animal of such dimensions would weigh about 300 lb. Dugong.

During 1889 the Fish Market, Woolloomooloo, was supplied with 61,581 baskets fish, including 1,816 dozen schnapper, 380 dozen salmon (*arripis solar*), 199 dozen king-fish, 146 dozen jew-fish, and 3,424 dozen cray-fish, besides 1,862 baskets prawns. The amount realized at the market for the fish referred to was £34,311. 5,914 bags of oysters were taken from the tidal waters of the Colony in 1889, and 11,261 bags were imported from Queensland and New Zealand. 30,642 lb. weight of Murray River cod were exported to Melbourne during the year. Considerable quantities of prawns arrive in Sydney by coasting steamers, which never go into the Fish Market, and are not included above.

REPTILES.

The snake and lizard families number many varieties, which are distributed over all parts of the country. These reptiles, however have generally disappeared from the settled portions of the Colony, having been deprived of the means of subsistence which the condition of the country in its natural state afforded them. Several species of snakes are venomous, particularly the death-adder, the black snake, the brown, and the tiger snake, but accidents due to snake bite are now of rare occurrence. Most reptiles retreat at the approach of man, and there is comparatively little danger to be apprehended from their presence. Lizards are common, very beautifully marked, and some species, particularly the iguanas, attain a considerable size. Venomous snakes.

Although the rivers of the Colony of Queensland are the abode of several species of alligators, those of New South Wales are entirely free from the presence of these dangerous saurians.

PART IX.

Commerce and Shipping.

THE commerce of New South Wales is exceeded in value by that of no other colony or dependency of Great Britain, India and the Canadian dominion alone excepted. India, with a population nearly 250 times larger, has a trade hardly four times as great as this Colony, while the Dominion, whose population numbers five times that of New South Wales, does not equal it in the value of its commerce. Thus in the year 1888 the trade of these countries was:—

Country.	Imports.	Exports.	Total trade.
	£	£	£
India	79,830,468	92,148,279	171,978,747
Canada	22,786,568	18,534,863	41,321,431
New South Wales	21,229,277	20,920,130	42,149,407

SHIPPING.

Early shipping records.

Prior to the year 1825 the records of the shipping trade of the Colony are very meagre; in the year mentioned, however, the shipping amounted to 85 vessels inwards, aggregating a tonnage of 24,559; and 75 vessels outwards, with a total tonnage of 22,688. Twenty-five years afterwards, just before the separation of Port Phillip, the figures stood thus: 976 vessels inwards, with a tonnage of 234,215 tons, and 1,014 vessels outwards, with a tonnage of 263,849 tons. In 1851, the year of the separation of Victoria from the parent Colony, the trade fell to 553 vessels inwards, measuring 153,002 tons, and 503 vessels outwards of 139,020 tons.

Separation of Queensland caused no decline in trade.

The separation of Queensland caused no decline in the trade of the Colony, as shown by the returns. Possibly the classing of northern boats as foreign traders, instead of as coasters, would be the cause of even an apparent increase, for in 1860, the year following the separation, the shipping amounted to 1,424 vessels vards, with a tonnage of 427,835 tons, and 1,438 vessels outrds of 431,484 tons, a considerable advance on the figures of previous year. From 1860 to the present time trade has pidly increased, and at a greater ratio than the population, so at in 1889 the tonnage, inwards, amounted to 2,632,081 tons, d the outward tonnage to 2,689,098, or 5,321,179 tons in all.

Increase of shipping.

The rate of increase has been fairly constant, though checked casionally by the occurrence of bad seasons here, or failure of rices in the European markets. The following table shows the uantity and tonnage of shipping arriving and departing from ew South Wales, at intervals of five years, from the date of the arliest records to the year 1889 :—

Vessels Entered and Cleared in New South Wales.

Year.	Inwards.		Outwards.	
	Number.	Tonnage.	Number.	Tonnage.
1825	85	24,559	75	22,688
1830	157	31,225	147	28,822
1835	260	63,019	269	66,964
1840	709	178,958	665	163,704
1845	597	105,352	614	103,961
1850	976	234,215	1,014	263,849
1855	1,152	353,323	1,185	362,482
1860	1,424	427,835	1,438	431,484
1865	1,912	635,888	2,120	690,294
1870	1,858	689,820	2,066	771,942
1875	2,376	1,109,086	2,294	1,059,101
1880	2,108	1,242,458	2,043	1,190,321
1885	2,601	2,088,307	2,583	2,044,770
1889	3,254	2,632,081	3,229	2,689,098

Shipping of New South Wales compared with other colonies.

As already stated, the trade of New South Wales greatly ceeds that of any other colony of the Australian group. ictoria is next in order; after which, at a considerable distance, ome South Australia, Queensland, and New Zealand. The total hipping of Australasia for the year 1889 amounted to 15,971,666 ons, of which 5,321,179, or about one-third, belonged to New outh Wales. The amount of the shipping trade of each Colony, uring each year since 1879, is shown in the following table.

Shipping of Australasian Colonies, Inwards and Outwards.

Colony.	1879.	1880.	1881.	1882.	1883.	1884.	1885.	1886.	1887.	1888.	1889.
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
New South Wales	2,540,724	2,432,779	2,786,500	3,296,635	4,006,237	4,660,958	4,133,077	4,258,604	4,322,758	4,765,419	5,321,179
Victoria	1,940,222	2,179,899	2,411,902	2,690,884	2,964,331	3,151,537	3,260,158	3,735,887	3,858,243	4,307,883	4,599,178
South Australia	932,891	1,200,904	1,269,491	1,337,218	1,504,765	1,834,532	1,807,042	1,558,476	1,677,883	1,973,651	1,959,342
Queensland	1,256,394	1,255,576	1,553,808	1,880,591	882,491	1,152,112	1,029,181	1,120,479	924,232	996,229	1,001,009
Western Australia	170,037	250,429	285,046	344,247	389,102	442,886	468,035	497,508	464,637	812,393	982,826
Tasmania	381,895	413,303	383,762	417,418	471,122	614,198	677,806	692,429	735,299	776,278	912,246
New Zealand	949,692	819,716	833,621	899,836	1,002,491	1,063,430	1,032,700	990,953	983,337	1,057,918	1,195,886
Total	8,171,855	8,552,606	9,524,130	10,866,850	11,220,539	12,919,708	12,407,999	12,858,836	12,966,389	14,689,766	15,971,666

Trade of Colony in British hands.

The trade of the Colony is, to a very large extent, in British nds, though there has been a noticeable increase in foreign ipping since 1881. In 1872 the British shipping entered and ared amounted to 1,400,672 tons, while in 1889 it was 4,659,798 ns, showing an increase during seventeen years of 3,259,126 ns. The foreign shipping amounted to 187,368 tons in 1872, nd 661,381 in 1889, being an increase of 474,013 tons.

French and German mail steamers.

The advent of the French line of Messageries Maritimes, and of the German Lloyd's steamships, has tended to increase the amount of the foreign trade of the Colony; but notwithstanding this, the tonnage under the British flag was in 1889 not less than 87·57 per cent. of the whole. The annexed table shows the respective amounts of each class since 1872:—

British and Foreign Vessels Entered and Cleared in New South Wales.

Year	British.	Foreign.	Total.
	Tons.	Tons.	Tons.
1872	1,400,672	187,368	1,588,040
1873	1,619,019	143,459	1,762,478
1874	1,820,146	170,748	1,990,894
1875	2,001,641	166,546	2,168,187
1876	1,969,457	158,268	2,127,725
1877	2,022,728	215,253	2,237,981
1878	2,203,491	256,012	2,459,504
1879	2,292,733	247,991	2,540,724
1880	2,259,924	172,855	2,432,779
1881	2,563,999	222,501	2,786,500
1882	2,977,756	318,909	3,296,665
1883	3,532,955	473,282	4,006,237
1884	4,185,549	475,409	4,660,958
1885	3,615,582	517,495	4,133,077
1886	3,746,725	511,879	4,258,604
1887	3,836,527	486,231	4,322,758
1888	4,141,551	623,868	4,765,419
1889	4,659,798	661,381	5,321,179

Larger portion of tonnage owned in colonies.

Of the total tonnage set down as British, the larger portion is owned in the colonies. In 1876 out of 1,969,457 tons of shipping entered and cleared under the British flag, 1,293,813 tons, or about 66 per cent., were Australian; in 1881, out of 2,563,999 tons entered and cleared, 1,543,431 tons, or 60 per cent., represented colonial shipping; while in 1889 the colonial shipping amounted to 2,817,071 tons, out of a total of 4,659,798 tons, or 60·45 per cent. The amount of British and British-colonial shipping entered and cleared from New South Wales ports during each year since 1880 is shown below:—

British shipping.

Tonnage of British Vessels trading to New South Wales.

Year.	Shipping belonging to Great Britain.	Shipping belonging to British possessions.	Total, inwards and outwards.
	Tons.	Tons.	Tons.
1880	760,688	1,499,236	2,259,924
1881	1,020,568	1,543,431	2,563,999
1882	1,301,347	1,676,409	2,977,756
1883	1,429,725	2,103,230	3,532,955
1884	1,716,255	2,469,294	4,185,549
1885	1,520,091	2,095,491	3,615,582
1886	1,503,921	2,242,804	3;746,725
1887	1,599,191	2,237,336	3,836,527
1888	1,717,549	2,424,002	4,141,551
1889	1,842,727	2,817,071	4,659,798

Tonnage of foreign vessels.

Compared with the figures just given, the tonnage of the foreign vessels trading with New South Wales will appear very small. Taking the year 1889, for which the inward and outward tonnage for the principal nationalities are given below, America stands first, then Germany, after which comes France. Scandinavia is the only other nation whose carrying trade with the Colony is important.

Foreign vessels Entered and Cleared in New South Wales during 1889:—

	Tonnage.
U.S. America	210,164
Germany	185,135
France	151,117
Norway and Sweden	69,860
Holland	9,631
Other nations	35,474
Total..	661,381

Steam and sailing tonnage.

The records prior to the year 1876 do not distinguish the steam from the sailing vessels, but the modern tendency to supersede sailing vessels by steam is abundantly apparent even in the thirteen years which have since elapsed. In 1876 the steam tonnage was 912,554 as compared with 1,215,171 tons of sailing vessels, being 43 per cent. and 57 per cent., respectively. In 1889, the relative positions were altogether transposed, for the tonnage of sailing vessels had slightly decreased, being only 1,602,800 tons, or 30 per cent., as against 3,718,378 tons of steam, or 70 per cent. of the whole shipping. The increase of steam tonnage for the thirteen years has therefore been rather more than 269 per cent. The tonnage of each class since 1877 was as under:—

Steam and Sailing Vessels Entered and Cleared.

Year.	Steam.	Sailing.	Year.	Steam.	Sailing.
	Tons.	Tons.		Tons.	Tons.
1877	1,007,679	1,230,302	1884	3,373,710	1,287,248
1878	1,105,200	1,354,304	1885	2,791,843	1,341,234
1879	1,231,423	1,309,301	1886	2,982,122	1,276,482
1880	1,550,372	882,407	1887	3,145,548	1,177,210
1881	1,758,304	1,028,196	1888	3,264,509	1,500,910
1882	1,996,663	1,300,002	1889	3,718,378	1,602,801
1883	2,702,196	1,304,041			

A great portion of the steamer traffic with the United Kingdom and the Continent of Europe goes through the Suez Canal. During the year 1889, 239 steamers to or from Australia, with a net tonnage of 640,000 tons, and 40,573 passengers, passed through the Canal, the majority of which touched at Sydney. In the year 1878, the number of Australian vessels traversing the Canal was 27, the net tonnage being 46,000. The average time of a passage through the Canal in 1889 was 26 hours 44 minutes.

Tonnage arriving in ballast.

The advantage offered by the New South Wales trade to shipowners is illustrated by the large amount of tonnage coming to the Colony in ballast, and the small amount leaving without cargo. A large proportion of the vessels arriving in ballast come from the ports of the neighbouring colonies, having delivered a general cargo there, and, being unable to obtain return freight, go to Newcastle for a cargo of coal. The largest amount of tonnage in any one year since 1877 entered in ballast was in 1889, when it reached 704,267 tons, and the largest cleared was 65,898 tons in the same year. The tonnage entered and cleared for each year is given herewith :—

Tonnage Entered and Cleared in Ballast.

Year.	Entered.	Cleared.	Year.	Entered.	Cleared.
	Tons.	Tons.		Tons.	Tons.
1877	295,569	8,393	1884	395,990	60,457
1878	354,917	13,115	1885	345,366	53,381
1879	337,696	19,892	1886	353,969	40,635
1880	217,763	16,219	1887	507,177	36,434
1881	271,343	5,179	1888	628,732	41,735
1882	325,480	23,338	1889	704,267	65,898
1883	384,645	27,855			

Value of imports per ton high.

Notwithstanding the fact that from one-fourth to one-sixth of the tonnage arriving in the Colony is in ballast, as against one-sixtieth of the clearances, the average value of freights inward is higher than of those outward. Thus in 1889 the average value of the cargoes imported was £7 9s. 9d. per ton of vessels inward, or, if an allowance be made for ships in ballast, the value per ton was £10 4s. 6d. The mean value of goods exported per ton of shipping outward was £6 1s. 9d., and allowing for vessels leaving in ballast, £6 4s. 10d.; in the former case 18·69 per cent. lower, and in the latter 38·95 per cent. than the value of tonnage imported.

Value of exports per ton.

New South Wales exports have, generally speaking, a high value per ton, and the lower value of the exports per ton than the imports is due to the large amount of coal exported, the quantity for 1889 being 2,387,702 tons weight, or 990,000 tons measurement, out of a total of 2,689,098 tons. The value of the exports of the Colony per ton exceeds that of the imports in the case of Great Britain alone. In every other case, as will be seen from the following statement, the import value per ton is much higher than the export :—

Value per Ton Measurement of Imports and Exports of New South Wales, 1889.

Country.	Value of imports per ton.			Value of exports per ton.			Country.	Value of imports per ton.			Value of exports per ton.		
	£	s.	d.	£	s.	d.		£	s.	d.	£	s.	d.
Great Britain ...	20	19	8	32	13	2	Other British possessions.	4	3	10	2	10	5
Victoria	3	1	0	2	7	6	United States..	13	17	6	3	13	4
South Australia	4	3	4	1	9	4	Other Foreign countries.	8	12	7	4	7	3
Tasmania	4	5	2	2	4	10							
New Zealand ...	7	12	10	2	11	0							
Queensland......	15	6	9	5	0	1							

Trade with various countries compared.

The following table shows the total amount of shipping of some of the principal nations of the world, and of the Australasian Colonies, with the rate of tonnage per head of the population:—

Shipping of Various Countries and the Tonnage per Head of Population, 1887.

Country.	Tonnage.	Per Head of Population.	Country.	Tonnage.	Per Head of Population.
United Kingdom ..	65,161,774	1·76	Holland...... ..	9,453,041	2·14
Russia (in Europe).	12,505,068	0·16	France	27,763,557	0·72
Norway	4,742,720	2·41	Italy	13,794,850	0·46
Sweden (1886) ..	8,860,430	1·88	United States.	27,042,250	0·54
Germany	17,308,082	0·36			

Colonies, 1889.

Colony.	Tonnage.	Per Head of Population.	Colony.	Tonnage.	Per Head of Population.
N. S. Wales ...	5,321,179	4·82	W. Australia...	1,004,818	23·41
Victoria	4,599,178	4·16	Tasmania	912,246	6·13
S. Australia ...	1,959,342	6·19	New Zealand..	1,195,886	1·95
Queensland......	1,001,009	2·52			

Tonnage of exports to Great Britain.

Of the tonnage of New South Wales exports, Great Britain took only 10·46 per cent., though in value the exports were 54·87 per cent. of the total. The exports by sea to Victoria and the other Australasian Colonies amounted to 52·39 per cent. of the whole, while in value they reached only 23·05 per cent. As regards the other British possessions, the tonnage of vessels carrying

Value of British commerce.

goods from New South Wales to their ports amounted to 8·94 per cent. of the whole, but the value reached only 3·62 per cent. Similarly with the United States and other foreign countries, though the tonnage reached 11·75 and 16·46 per cent., the value was but 6·92 and 11·54 per cent. respectively. The following table shows the tonnage inward and outward from Great Britain and the Colonies, and to the United States, as well as the value of the cargoes; but it must be borne in mind that the tonnage figures represent the nominal tonnage of the vessels carrying the goods, and not the actual weight of the goods themselves, which latter information it is impossible to obtain:—

Tonnage of Vessels and Value of Cargoes during 1889.

Country.	Inwards.				Outwards.			
	Tonnage.		Value.		Tonnage.		Value.	
	Total.	Per cent.	Total.	Per cent.	Total.	Per cent.	Total.	Per cent.
			£				£	
Great Britain ..	416,318	21·60	8,736,477	45·04	274,408	10·46	8,962,026	54·87
Victoria........	430,371	22·32	1,312,260	6·77	700,911	26·72	1,664,597	10·19
South Australia	183,924	9·54	766,506	3·95	184,285	7·03	270,344	1·65
Tasmania	118,695	6·16	505,610	2·61	77,924	2·97	174,852	1·07
New Zealand ..	156,370	8·11	1,195,004	6·16	163,493	6·23	416,761	2·55
Queensland	242,294	12·57	3,716,273	19·16	247,655	9·44	1,239,385	7·59
Other British possessions.	119,047	6·17	498,829	2·57	234,560	8·94	591,727	3·62
United States ..	78,901	4·09	1,094,697	5·65	308,113	11·75	1,130,025	6·92
Other foreign countries.	181,894	9·44	1,569,879	8·09	431,851	16·46	1,884,943	11·54
Total	1,927,814	100·00	19,395,535	100·00	2,623,200	100·00	16,334,000	100·00

Average tonnage of vessels trading with N.S. Wales.

The average tonnage of vessels trading with the Colony has gradually increased since 1845; previously to that year transports formed so large a portion of the total tonnage as to swell the average considerably. The average tonnage per ship at each decennial period since 1825 was as follows:—

Year.	Average tonnage of vessels.	Year.	Average tonnage of vessels.
1825	295	1865	329
1835	246	1875	463
1845	173	1885	797
1855	306	1889	821

Tonnage of British, Foreign, and Colonial vessels.

The tonnage for the last ten years has been separated into British, Foreign, and Colonial, and the average for each year will be found below. It will be seen that during this period the average tonnage of British vessels trading here has increased 49 per cent., and foreign vessels 53 per cent., and Colonial about 26 per cent.

Year.	Average tonnage of vessels.			Year.	Average tonnage of vessels.		
	British.	Foreign.	Colonial.		British.	Foreign.	Colonial.
	Tons.	Tons.	Tons.		Tons.	Tons.	Tons.
1880	1,031	732	476	1885	1,312	997	602
1881	1,105	780	498	1886	1,329	986	600
1882	1,067	787	533	1887	1,385	1,108	549
1883	1,060	982	594	1888	1,516	1,194	576
1884	1,146	973	611	1889	1,534	1,123	600

Decrease in hands required per ton.

The natural corollary to the increase in the size of ships and the improvements to the rigging and fittings is the decrease in the number of hands required per ton, though the actual number of hands employed per vessel has increased. Intercolonial vessels in 1889 carried an average of 22 men to every vessel, or 1 man to every 26·4 tons. British vessels carried in 1889 an average complement of 46 men, or 1 man to every 32·4 tons, while foreign ships carried an average crew of 40 men, or 1 man to every 28 tons. In 1876 British ships carried 1 man to every 25 tons, intercolonial vessels 1 man to every 22½ tons, and foreign vessels 1 man to 35 tons, the decrease in the tonnage per sailor in foreign vessels being due to the finer class of ships that began to trade here in 1883, which are fitted in the most modern fashion, and manned accordingly:—

Average crews carried.

Year.	Average crews of vessels.			Year.	Average crews of vessels.		
	British.	Foreign.	Colonial.		British.	Foreign.	Colonial.
1880	44	25	21	1885	44	34	24
1881	40	23	22	1886	45	39	22
1882	35	18	22	1887	44	40	22
1883	37	38	24	1888	45	44	24
1884	41	36	25	1889	46	40	22

Comparison of Australian ports.

The relative importance of the various ports of Australia may be ascertained by an inspection of the following table, from which the rank of Sydney becomes evident. Melbourne takes the first place; but, as hereafter pointed out, its trade, for purposes of comparison, should be reduced by a large tonnage, representing the larger ocean steamers, whose terminal port is Sydney, making Melbourne merely a port of call. Newcastle comes next after Sydney, exceeding in tonnage even Port Adelaide and Brisbane. It should be noted in respect to Queensland ports, that the tonnage of vessels is recorded at every port of call, and on this account the towns north of Brisbane also appear more important than they really are.

Tonnage Entered and Cleared at principal Australasian Ports.

Port.	Entered.	Cleared.	Port.	Entered.	Cleared.
	Tons.	Tons.		Tons.	Tons.
Sydney	1,759,658	1,432,340	Auckland ...	169,153	149,284
Newcastle ...	744,113	1,126,892	Wellington ..	139,383	155,099
Melbourne ...	2,082,044	2,168,977	Hobart	261,454	248,397
Brisbane	436,680	442,686	Launceston ..	144,230	150,501
Rockhampton	249,058	246,964	Port Adelaide	811,538	817,924
Townsville ...	290,542	280,092	Port Pirie ...	85,485	81,743

Increase of Sydney trade.

The progress of the shipping trade of Sydney has been very uniform, the increase being at an average rate of 8 per cent. per annum. The vessels registered as entering the port of Sydney, as a rule, considerably exceed in tonnage those clearing. To account for this difference it is only necessary to state that vessels leaving Sydney for Newcastle for the purpose of shipping coal are reckoned as departures from Newcastle, and not from Sydney. For this reason the clearances of Newcastle uniformly exceed the arrivals, as will be noticed in the subsequent table. The practice of clearing vessels at both ports at one time obtained, but has been abandoned for some years, and vessels are now cleared at the port which they last leave.

Tonnage of Vessels Entered and Cleared at Sydney and Newcastle.

Year	Sydney.		Newcastle.	
	Entered.	Cleared.	Entered.	Cleared.
	Tons.	Tons.	Tons.	Tons.
1871	409,063	394,289	277,959	376,378
1872	418,164	360,735	342,514	427,845
1873	474,203	367,351	389,121	498,468
1874	499,326	422,693	510,291	543,693
1875	590,700	468,423	510,902	573,626
1876	635,269	502,866	433,423	535,738
1877	662,217	511,623	469,349	577,676
1878	712,303	511,801	542,745	665,885
1879	759,980	581,694	492,163	651,501
1880	827,738	641,996	400,598	516,480
1881	955,531	655,161	481,695	645,543
1882	1,101,756	844,677	559,228	737,772
1883	1,260,595	1,115,411	656,916	926,956
1884	1,554,118	1,277,843	708,449	1,066,462
1885	1,608,169	1,283,888	452,946	722,865
1886	1,638,802	1,399,545	416,518	686,179
1887	1,483,045	1,303,488	566,702	780,588
1888	1,692,268	1,424,429	633,119	815,516
1889	1,759,658	1,432,340	744,113	1,126,892

Trade of Sydney compared with British ports.

The comparative importance of the trade of Sydney may be seen from viewing it in connection with the trade of the chief cities of Great Britain. It will be observed that in absolute tonnage Sydney was surpassed by five English ports—London, Liverpool, Cardiff, Newcastle, and Hull; though in point of value, the trade of Sydney exceeded that of any port in Great Britain, London, Liverpool, and Hull excepted. Thirteen of the most important ports of Great Britain are shown in the following table. The figures are for 1888 for British ports, and for 1889 for Sydney.

Tonnage of principal Ports of Great Britain and of Sydney.

Port.	Inwards.	Outwards.
	Tons.	Tons.
London	7,470,949	5,470,912
Liverpool	5,368,196	4,941,556
Cardiff	2,928,265	5,148,068
Newcastle (England)	1,809,991	3,320,901
Hull	1,897,868	1,503,824
Sydney	1,759,658	1,432,340
Glasgow	994,311	1,554,571
Newport	962,329	1,469,403
Sunderland	743,443	930,345
Southampton	867,737	790,391
Dover	692,759	671,411
Middlesbrough	681,144	555,048
Swansea	504,813	733,952
Bristol	577,524	182,634

Sydney chief shipping port.

Sydney is not only the metropolis, but the chief shipping port of the Colony, its trade being larger than that of any city in the southern hemisphere. The nominal trade of Melbourne appears larger, but as that city is a place of call for various lines of steamers, whose terminal port, and the destination of the greater part of whose cargo, is Sydney, the shipping trade of Melbourne is unduly swollen, and its relative importance compared with Sydney appears greater than really is the case. Newcastle ranks second amongst New South Wales ports, and for many years previous to 1880 its trade was greater than that of even Sydney itself. Since the year named, however, the tonnage both entered and cleared at Sydney has exceeded that of Newcastle. No other seaport can be compared with either of these ports, though for some time Wollongong has maintained a considerable trade, especially in coal; and of late years the importance of Eden, Twofold Bay, has steadily increased.

Murray and Darling trade.

The statistics of the trade of the Murray and Darling River ports were available for the first time in 1886, during which year the foreign trade was by no means inconsiderable. During 1887 the rivers were very favourable for navigation, and the returns consequently show a considerable advance, but the year 1888 on the contrary shows a decline, though 1889 was rather more favorable. The figures relating to Wentworth for the most part represent Darling trade, while the others refer to the Murray River; and the tonnage has been credited to the first port of call for vessels inward, and to the last port for vessels outward, bound:—

Riverine trade.

Trade at Riverine ports.

Port.	1888.		1889.	
	Inwards.	Outwards.	Inwards.	Outwards.
	Tons.	Tons.	Tons.	Tons.
Wentworth	22,427	21,929	38,335	34,287
Moama	28,339	300	27,011	636
Tocumwal and Swan Hill ...	*	15,286	1,780	1,998
Total	50,766	37,515	67,126	36,921

* Included in Moama.

Number of vessels registered.

During the year 1889, 980 steamers and sailing vessels, representing 107,449 tons net, stood registered in the books of the

Custom House, as belonging to the port of Sydney. Of these 435 were steamers, collectively of 47,563 tons net and of 17,130 nominal horse-power. There were 66 sailing vessels registered at Newcastle (10,572 tons net), and 55 steamers of 4,561 nominal horse-power, and 4,774 net tons. The total tonnage registered in the Colony was 122,582, of which 52,124 was steam tonnage, with 19,923 nominal horse-power.

The total tonnage registered in New South Wales during the last twelve years was : —

Vessels Registered in New South Wales.

Year.	Sailing vessels.			Steamers.			Total.	Total tons.	Total men.
	No.	Tons.	Men.	No.	Tons.	Men.			
1878	55	7,111	319	41	5,392	278	96	12,503	597
1879	54	5,870	281	36	3,561	291	90	9,431	572
1880	54	7,003	325	20	2,159	168	74	9,162	493
1881	51	10,300	328	23	2,713	115	74	13,013	443
1882	87	14,246	511	41	7,764	509	128	22,010	1,020
1883	83	10,566	420	72	9,406	575	155	19,972	995
1884	77	10,850	507	84	11,484	707	161	22,334	1,214
1885	49	4,876	280	50	6,387	394	99	11,263	674
1886	45	5,969	166	47	3,489	235	92	9,458	401
1887	39	9,138	258	36	10,303	603	75	19,441	861
1888	25	5,101	164	25	2,357	237	50	7,458	401
1889	18	1,038	53	20	2,381	144	38	3,419	197

Import of vessels.

No reliable data have as yet been procurable as to the number and tonnage of vessels built abroad for the New South Wales local trade, but that number must be considerable, and forms an import of large value altogether lost sight of in the Customs returns. Some idea, however, of the large number of vessels imported may be gathered from the tonnage registered, which will be found in the following table. In estimating the value of the vessels imported, approximate figures can alone be given. The value per ton of the British mercantile fleet averages about £30 for steamers and £15 for sailing vessels, but in this Colony the figures would be somewhat lower, and for the purpose of the estimate which follows, the average value of steam tonnage has been taken at £25, and sailing vessels at £12 10s.:—

Foreign Tonnage Registered in New South Wales.

Year.	Sailing.	Steam.	Value.	Year.	Sailing.	Steam.	Value.
	Tons.	Tons.	£		Tons.	Tons.	£
1877	4,469	2,616	121,262	1884	8,332	6,339	262,625
1878	5,329	3,732	159,912	1885	4,076	3,395	135,825
1879	4,332	2,764	123,250	1886	4,630	852	79,175
1880	5,065	1,298	95,762	1887	8,502	9,525	356,900
1881	9,558	1,948	168,175	1888	4,797	1,963	109,137
1882	12,788	4,488	272,050	1889	834	1,718	42,950
1883	8,681	4,038	209,462				

The building of steam vessels has become of more importance than that of sailing ships, the tonnage during the last seven years being 17,977 of steam tonnage, and 7,677 tons of sailing, respectively. Schooners and ketches are the principal classes of sailing vessels built in the Colony, the general tonnage of each class averaging somewhat under 100 tons burden. The general Shipbuilding record.

Tendency to supplant sail by steam.

tendency to supplant sailing vessels by steamers, and the substitution of iron for wood for the frames and hulls of vessels, have given a check to the wooden ship-building industry, which at one time promised to grow to important dimensions. Every kind of timber suitable for the construction of ships is found on the rivers of the coast districts of the Colony, but, as the demand for this description of vessel has not increased, little advantage can be taken of the resources of the Colony in this respect.

Vessels built in the Colony.

The years 1883 and 1884 were marked by great activity in the construction both of sailing and steam vessels, 50 sailing and 52 steam vessels, valued at about £157,762, having been built in 1883, whilst 39 sailing vessels and 64 steamers, valued at £160,100, were built in the subsequent year. Trade has not been so active since, and the industry shows a tendency to die out, as in 1888 it had fallen lower than in any of the years shown in the following table, and was very little better in 1889, the value of sailing vessels built being only £2,550, and of steamers £16,575, in all £19,125. The number of vessels built during each year since 1876 is given in the table annexed :—

Vessels Built in New South Wales.

Year.	Sailing vessels.		Steamers.		Total vessels.	Total tonnage.
	No.	Tons.	No.	Tons.		
1876	38	2,066	22	1,399	60	3,465
1877	34	1,995	27	2,515	61	4,510
1878	23	1,782	26	1,660	49	3,442
1879	31	1,538	19	797	50	2,335
1880	29	1,938	12	861	41	2,799
1881	14	742	15	765	29	1,507
1882	41	1,458	24	3,276	65	4,734
1883	50	1,885	52	5,368	102	7,253
1884	39	2,518	64	5,145	103	7,663
1885	29	800	36	2,992	65	3,792
1886	27	1,339	40	2,637	67	3,976
1887	14	636	16	778	30	1,414
1888	9	304	11	394	20	698
1889	9	204	14	663	23	867

Dock accommodation in Sydney.

The accommodation provided both by the Government and by private enterprise for the fitting and repairing of ships, is equal to the requirements of the trade of the Colony. At Sydney there are three graving docks, four floating docks, and five patent slips. At Newcastle there is one patent slip, and on the Clarence River a floating dock, besides which there are other docking and building yards in different parts of the Colony for the convenience of coasters and small craft. The principal docks and slips in Sydney, as well as their leading dimensions and size of vessel they will carry, are shown in the following table:—

Docks and Slips in Sydney Harbour.

Name of Dock.	Where situated.	Length of Keel.	Breadth	Draught of vessel taken.	Lifting power of patent slip or dock.
Graving docks—		ft.	ft.	ft. in.	tons.
Fitzroy (Government)..	Cockatoo Island ...	475	59	20 0	...
Sutherland ,, ...	,, ...	635	84	32 0	...
Mort's	Balmain	410	68	20 0	...
Floating docks—					
Anderson's	Johnston's Bay ...	100	23	7 0	150
Anderson and Goodall	,, ...	320	57	27 0	1,400
Rountree's	Waterview Bay ...	164	42	12 0	600
Atlas Company's*	Woolwich	300	73	25 0	2,000
Patent slips—					
Bayle's	Balmain	...	...	...	...
Davy and Sands'.........	Pyrmont	180	...	...	600
Mort's No. 1	Balmain	250	...	...	1,500
,, ,, 2	,, ...	200	...	...	1,000
,, ,, 3	,, ...	...	...	...	40

* Pontoon Depositing Dock.

New graving dock.

All the necessary tools and appliances for the repairing of ships are found in the dockyards. The new graving dock recently completed by the Government is the largest single dock in the world, and capable of receiving vessels drawing 32 feet of water. For natural facilities for shipping Sydney stands unrivalled. The water deepens abruptly from the shores, so that the largest vessels may be berthed alongside the wharves and quays. The

Wharfage, Sydney.

wharfage is chiefly in private hands, and powerful shipping appliances and roomy stores are found at all the important wharves. The Government still holds the shores of Sydney Cove, along the margin of which magnificent echelon wharves have been constructed. The south and west sides of Darling Harbour also belong to the Government, and two jetties capable of accommodating the largest ships have been constructed, communicating directly with the railway, which has been carried to the water's edge. The total wharf frontage amounts to about 6 miles.

Equipment of the Port of Newcastle.

Newcastle is also a well-equipped port, where vessels of 4,000 tons can be safely berthed; and every modern steam and hydraulic appliance for loading coal is found on its wharves. The Government owns nearly all the wharfage, which extends over a length of about 10,500 feet. The Government shipping appliances include seven steam cranes of 15 tons, and twelve hydraulic cranes, two of 25 tons, six of 15 tons, and four of 9 tons, as well as a number of shoots. There are also two slips owned by private individuals, capable of taking up vessels of 300 and 1,200 tons respectively. Staiths, cranes, and other coal-shipping appliances have been erected at Wollongong, Bulli, Coal Cliff, and other ports. Private as well as Government wharfs are found at all the chief centres of population along the rivers of the Colony, and all ports with a trade of any importance have their jetties and shipping facilities.

Private wharfs.

Vessels wrecked during 1889.

The coast of New South Wales is free from any source of danger to vessels navigating it, and where reasonable precautions were taken wrecks have been very rare. The majority of losses have been amongst vessels under 100 tons burthen. During the year 1889 there were twenty wrecks within the jurisdiction of New South Wales, with a total of 2,420 tons, valued with cargo at £50,040. Fortunately only four lives were lost, out of 192 passengers and crew all told. Only two of the vessels lost wer of any size—the "Duckenfield" steam collier, 251 tons, wrecked on Long Reef; and the "Centennial" steamer, 591 tons, which sank in Taylor Bay, Port Jackson, through having come into collision with the steamship "Kanahooka" on August 23. One man was drowned with each of these wrecks. The other fatality occurred in connection with the loss of the schooner "Heath," which struck on the reef at the northern side of the entrance to Broken Bay, during thick weather, on January 4. Out of her crew of seven men two were drowned.

Vessels lost since 1880.

The following statement shows the number of vessels registered in various ports of Australia, Tasmania, and New Zealand, which were lost on the coast of New South Wales during the years 1880–89.

Vessels Wrecked off New South Wales.

Year.	Under 50 tons.	50 to 100.	100 to 200.	200 to 300.	300 to 400.	400 to 500.	Over 500 tons.	Total.	Lives lost.
1880	7	2	3	...	...	...	2	14	*
1881	6	1	1	3	1	...	1	13	*
1882	5	4	2	1	1	1	1	15	*
1883	2	6	3	1	...	...	...	12	*
1884	6	3	1	...	...	...	1	11	*
1885	3	4	1	1	1	...	1	11	*
1886	6	5	7	1	1	...	3	23	111
1887	4	5	2	1	...	...	1	13	2
1888	6	2	3	1	1	1	1	15	8
1889	4	8	5	2	...	...	1	20	4

*Not ascertained.

Average tonnage in port.

In the port of Sydney, in the year 1889, there was a dail average of 41,413 tons of sailing vessels, and 31,697 tons steamers, or 73,110 tons in all, ranging from 99,094 on Januar 19th to 53,941 tons on April 11th. At Newcastle the dai average was 35,835 tons, varying from 75,210 tons on January 8t to 6,136 tons on December 17th.

Tonnage in Port Jackson.

The following table shows the average daily tonnage, sailing and steam (exclusive of coasters), in Port Jackson during each month of the year 1889 :—

1889.	Tonnage.		
	Sailing.	Steam.	Total.
January	52,077	34,186	86,263
February	49,866	30,602	80,468
March	46,177	30,367	76,544
April	36,431	29,256	65,687
May	39,123	30,289	69,412
June	41,707	27,275	68,982
July	44,081	31,317	75,398
August	37,609	33,755	71,364
September	38,315	30,282	68,597
October	38,091	32,028	70,119
November	38,912	37,302	76,214
December	34,564	33,710	68,274
Average	41,413	31,697	73,110

Tonnage in Port Hunter.

In the case of the port of Newcastle the total average dail tonnage for every month in the year, taking sailing vessels an steamers together, was as follows :—

Month.	Tonnage.	Month.	Tonnage.
January	60,586	July	43,776
February	52,276	August	31,696
March	56,266	September	23,165
April	39,693	October	18,440
May	33,938	November	13,913
June	42,680	December	13,589

IMPORTS AND EXPORTS.

The value of goods imported into, and exported from, New South Wales, has increased during the sixty-four years over which the records extend, from £400,000 in 1825 to £46,157,991 in 1889. The yearly values have been somewhat uncertain in their increase, the imports from 1840 to 1852 being especially erratic; but of late years the progress of the Colony, as evidenced by its trade, has been remarkably steady. The gross value from year to year of the exports, for the reasons hereafter pointed out, forms the surer index of the progress of a country circumstanced like New South Wales, and the result of a rise or fall in the value of the staple commodities, or of a depression in production, may be readily traced in the corresponding rise or fall in the export values. The amount of the trade of the Colony, in decennial Periods since 1825, is as follows:—

Exports an index of production.

Imports and Exports of New South Wales.

Year.	Imports.	Exports.	Total Trade.
	£	£	£
1825	300,000	100,000	400,000
1835	1,114,805	682,193	1,796,998
1845	1,233,854	1,555,986	2,789,840
1855	4,668,519	2,884,130	7,552,649
1865	10,635,507	9,563,818	20,199,325
1875	13,735,133	13,797,397	27,532,530
1885	23,737,461	16,750,107	40,487,568
1889	22,863,057	23,294,934	46,157,991

The following table shows the total value of the Imports Exports of the Colony of New South Wales, from and to Country, during the year 1889:—

Countries and Ports.	Total Imports therefrom.	Exports thereto.		
		Domestic Produce or Manufacture.	Other Produce or Manufacture.	Tota
	£	£	£	£
United Kingdom	8,736,478	6,936,229	2,028,396	8,964
British Possessions.				
Victoria	2,419,038	4,760,119	625,181	5,385
Queensland	4,667,700	374,372	1,373,481	1,747
South Australia	1,858,621	2,837,882	161,782	2,999
Tasmania	505,590	64,774	110,078	174
New Zealand	1,195,090	163,847	252,977	416
Western Australia	1,273	9,150	7,402	16
Canadian Dominion	37,959	....	4	
Ceylon	21,289	5,873	485	6
Fiji	129,742	22,123	62,710	84
Gibraltar	20	39	....	
Hong Kong	423,522	61,627	218,800	280
India	169,619	110,989	25,890	136
Malta	369	41	....	
Mauritius	10,020	24,606	279	24
Natal	400	268	....	
New Guinea	508	35	175	
Norfolk Island	1,526	108	1,279	1
Penang	....	1,650	9	1
Seychelle Islands	470	56	57	
Singapore	16,634	37,969	517	38
Trinidad	2,640	....	....	.....
Total British Possessions	11,462,030	8,475,528	2,841,106	11,316
Foreign States.				
Austria	13	....	....	.....
Belgium	88,843	721,247	4,440	725
Celebes	....	2,058	20	2
Chili	....	95,373	4,811	100
China	257,353	10,433	1,154	11
Cochin China	....	567	....	
Denmark	350	....	....	.....
Egypt	9,696	....	102	
Equador	....	....	....	.....
France	179,900	89,468	14,636	104
Germany	533,082	515,677	3,758	519
Guam	....	1,832	....	1
Holland	1,879	21,562	82	21
Italy	17,483	1,274	58	1,

Countries and Ports.	Total Imports therefrom.	Exports thereto.		
		Domestic Produce or Manufacture.	Other Produce or Manufacture.	Total.
	£	£	£	£
Japan	11,029	1,265	50	1,315
Java........................	298,403	51,622	988	52,610
Kaiser Wilhelm's Land..	....	1,655	1,245	2,900
Macao	7,782	....	....	....
Marshall Islands	....	653	2,058	2,711
Mexico	....	5,534	52	5,586
New Caledonia	85,582	38,005	151,655	189,660
Norway	25,196	....	....	....
Peru........................	....	18,979	12	18,991
Philippine Islands.........	12,405	27,675	123	27,798
Sandwich Islands	250	15,869	2,856	18,725
Siam........................	....	454	70	524
Spain	....	6,002	55	6,057
South Seas	23,214	12,333	51,974	64,307
Sumatra	....	3,032	....	3,032
Sweden	16,831	....	....	....
Timor	....	....	318	318
Turkey	561	....	....	....
United States................	1,094,697	368,985	761,604	1,130,589
Total, Foreign States..	2,664,549	2,011,554	1,002,121	3,013,675
General Total......	22,863,057	17,423,311	5,871,623	23,294,934

The following table shows import and export business done at the different ports of the Colony :—

Imports and Exports by Sea at each Port of the Colony, 1889.

Port.	Imports.	Exports.			Total Trade.
		New South Wales Produce.	British and Foreign Produce.	Total.	
	£	£	£	£	£
Ballina	......	3,397	......	3,397	3,397
Eden	1,045	11,239	......	18,239	19,284
Grafton	700	15,201	......	15,201	15,901
Nambuccra	......	5,000	......	5,000	5,000
Newcastle	924,150	1,891,973	2,348	1,894,321	2,818,471
Sydney	18,783,283	8,920,713	5,496,690	14,417,413	33,200,696
Tweed River......	3,181	1,643	332	1,975	5,156
Wollongong	......	19,897	......	19,897	19,897
Total...... £	19,712,359	10,876,063	5,499,370	16,375,443	36,087,802

IMPORTS.

Increase in value of imports.

During 1889 the gross value of goods imported into the Colony amounted to £22,863,057, or at the rate of £20 14s. 2d. per head; the imports for home consumption were valued at £16,991,434, or £15 7s. 9d. per head of the mean population during the year, thus showing an increase on the previous year of 15s. 3d. per head of gross imports, and 9s. 10d. per head of net imports. As the imports, generally speaking, represent the money return or value in kind of the exports of the previous season, the increase is due to an advance in the value of the exports of 1888. The value of the imports, distinguishing the amount required for home consumption, is given in the annexed table for the nineteen years 1871–1889 :—

Value of Imports per Inhabitant.

Year.	Imports for home consumption.	Total imports per head.	Year.	Imports for home consumption.	Total imports per head.
	£ s. d.	£ s. d.		£ s. d.	£ s. d.
1871	17 10 6	21 10 3	1881	17 8 2	23 2 8
1872	13 12 2	18 3 5	1882	21 7 4	27 0 3
1873	15 12 10	20 2 7	1883	20 7 10	25 15 11
1874	17 15 9	21 12 8	1884	21 3 5	26 5 11
1875	19 14 10	23 9 11	1885	20 9 3	25 10 0
1876	19 0 11	22 16 9	1886	17 10 8	21 15 0
1877	19 15 5	23 12 4	1887	14 11 3	18 15 0
1878	19 10 11	22 19 3	1888	14 17 11	19 18 11
1879	17 3 1	21 0 0	1889	15 7 9	20 14 2
1880	14 9 4	19 10 7			

For the purpose of more readily understanding the nature of the imports they have been classified under certain leading heads, and during 1889 the value of each class of imports was :—

Classification of imports.

Nature of Principal Imports.	Total Imports.	Imported for home consumption.
	£	£
Food and beverages, including breadstuffs	[illegible]	[illegible]
Wines, fermented and spirituous liquors	[illegible]	[illegible]
Live stock	[illegible]	[illegible]
Animal and vegetable products, including wool	[illegible]	[illegible]
Clothing and textile fabrics	[illegible]	[illegible]
Minerals and metals, raw or partly worked up	[illegible]	[illegible]
Coal and coke	[illegible]	[illegible]
Specie and precious metals	[illegible]	———
Articles of education, art, amusement	[illegible]	[illegible]
Manufactured articles not elsewhere included	[illegible]	[illegible]
Articles, unclassified by Customs	[illegible]	[illegible]
Total value £	[illegible]	[illegible]

During 1889, therefore, the Colony imported food and drink to the value of £4,853,217, or at the rate of £4 7s. 11d. for each inhabitant, and manufactured goods to the amount of £[illegible], or at the rate of £8 3s. 4d. per head, both together representing £12 11s. 3d. per head, out of a total of £15 7s. 3d. The two principal items of the balance are animal and vegetable products, specie and precious metals. Of the animal and vegetable products, as also of the precious metals, a large portion is worked up in the Colony for its own consumption, but the greater portion of the gold imported is treated at the Mint, and re-exported in the shape of coin. The value per head of some of the principal articles imported is given on following page.

Rate of imports per head.

Value of Imports per Head of the Principal Articles imported for Home Consumption.

Articles.	1879.		1880.		1881.		1882.		1883.		1884.		1885.		1886.		1887.		1888.		1889.	
	s.	d.	s.	d.	s	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d
Agricultural implements	1	3	0	9	1	1	1	8	2	6	1	9	1	3	1	0	1	10	1	2	1	1
*Apparel—wearing	12	3	7	0	8	0	8	5	7	4	18	4	19	7	25	2	21	3	23	8	21	5
Beer	6	5	4	3	4	0	5	3	6	3	6	9	7	8	7	11	6	7	6	7	7	3
Butter	0	2	0	2	0	9	2	1	1	11	3	1	2	2	3	0	0	7	1	9	1	4
Candles	1	10	0	8	1	10	3	0	1	6	3	8	3	2	1	6	0	11	1	8	0	11
Drapery	62	6	60	8	78	6	91	6	82	10	63	2	64	4	52	4	38	10	46	9	38	11
Earthenware and glassware	3	8	2	8	3	4	4	3	4	0	4	8	5	2	3	5	1	10	2	7	3	11
Fish—salt, dried, & preserved	1	9	1	3	2	11	2	7	3	6	3	4	1	10	1	6	1	4	1	7	2	1
Flour	8	3	9	6	5	0	11	2	7	6	8	4	9	8	12	0	9	8	9	2	11	2
Fruit	2	7	3	4	5	0	4	8	4	11	5	11	5	3	5	4	4	9	4	10	4	9
Furniture	2	9	1	8	3	4	4	9	5	2	4	1	4	1	5	1	3	0	2	9	5	5
Grain and pulse	4	7	4	3	3	4	9	9	4	9	9	1	7	5	8	11	5	8	7	8	15	10
Hardware	11	11	7	11	11	9	15	6	15	8	13	3	11	5	10	11	6	5	4	1	7	5
Hay and chaff	0	7	1	7	1	9	3	9	2	11	3	9	2	0	4	4	2	0	4	1	4	4
Iron and steel	13	2	13	11	13	8	22	10	18	7	18	11	24	0	15	6	14	11	17	8	13	3
Boots and shoes	10	3	8	5	9	5	12	11	11	3	10	3	11	7	10	3	8	10	9	1	9	4
Liquors—spirituous	12	0	10	0	12	2	11	8	10	7	12	0	10	4	8	9	7	0	6	11	7	10
Machinery	5	10	3	9	5	9	7	11	9	11	10	6	8	9	5	7	5	8	5	6	6	10
Potatoes	2	0	2	6	2	6	4	9	3	8	4	10	4	3	4	9	2	11	3	0	5	11
Saddlery and harness	1	7	1	4	1	6	1	11	2	0	1	6	1	2	1	0	1	4	1	0	1	4
Stationery, paper, books, &c.	9	11	8	4	11	1	11	6	9	7	11	3	11	6	10	2	8	0	8	9	5	1
Sugar	23	4	13	11	17	7	21	2	17	10	19	5	10	9	7	6	7	3	7	11	15	5
Tea	11	9	11	0	13	2	10	4	6	8	11	3	8	8	5	8	6	11	7	1	6	4
Timber	6	6	5	0	5	11	11	5	10	6	9	6	11	0	9	3	7	0	9	3	7	0
Tobacco	1	4	1	1	2	8	3	0	3	2	2	6	2	4	3	3	2	6	2	8	2	8
Toys and fancy goods	2	0	0	10	1	6	2	11	3	0	2	8	2	6	0	9	1	7	2	3	2	4
Wine	2	4	0	11	2	0	1	10	2	11	2	5	2	6	1	11	1	7	1	9	1	9

* Previous to 1884 it is probable Apparel was partly included with Drapery.

Drapery and apparel.

The import of drapery stands first in the list of values, and if wearing apparel be added to it the value of these goods would represent a sum of £3 0s. 4d. per head during 1889, the greatest amount for any one year having been in 1882, when the value imported reached almost £5 for every inhabitant. The value per head of iron and steel, machinery and hardware combined, was £1 7s. 6d.; wine and liquors, 16s. 10d.; flour, 11s. 2d.; grain and pulse, 15s. 10d.; boots and shoes, 9s. 4d. None of the other values reach such large figures as those mentioned above, though many other articles form individually very important imports. Two things are plain from a consideration of this table—the great purchasing power of the people, and the very large scope that exists for the production of goods which are now imported, and for the extension of manufactures within the Colony. This will, perhaps, be seen more clearly from an inspection of the gross values of some of the principal articles imported during the year 1889, as given in the following table :—

Scope for manufactures proved by large imports.

Values of the Principal Imported Articles.

Apparel, wearing	£1,204,696
Arms and ammunition	155,184
Beer	438,094
Boots and shoes	584.518
Butter	82,116
Candles	55,565
Chaff and hay	323,650
Cement	118,712
Cutlery and grindery	87,323
Drapery	2,440,000
Drugs and apothecaries' ware	188,025
Fancy goods and toys	156,185
Fish, preserved	130,757
Flour	741,189
Fruit, bottled, dried, and green	310,679
Furniture and upholstery	218,337
Glass and glassware	98,773
Grain and pulse	920,797
Hardware	476,441
Iron and iron manufactures and machinery	1,441,726
Jams and jellies	59,044
Jewellery	£78,273
Leather	65,031
Malt	107,444
Matches	41,059
Milk, condensed	76,501
Musical instruments	139,951
Paints, paperhanging, lampware	105,675
Paper, books, stationery, etc.	505,624
Pickles, sauces, and oilmen's stores	83,587
Potatoes and vegetables	405,063
Saddlery and harness and saddlers' ware	82,500
Silver plate and ware	80,527
Spirits	486,480
Sugar	941,872
Tea	385,363
Timber	408,401
Tobacco and cigars	220,604
Watches and clocks	84,881
Wine	116,666

Value of imports since 1880.

The value of the imports into New South Wales for the past ten years is shown in the following table:—

Value of Imports into New South Wales from Great Britain, British Colonies and Possessions, and Foreign States, 1880–89.

Year.	Great Britain.	Australasian Colonies.	Other British Possessions.	Foreign States.	Total.
	£	£	£	£	£
1880	6,536,661	5,945,788	539,334	1,154,280	14,176,063
1881	8,986,838	6,229,916	580,877	1,789,381	17,587,012
1882	11,155,917	7,289,823	821,425	2,200,734	21,467,899
1883	10,624,081	8,054,390	704,581	2,139,789	21,522,841
1884	11,423,047	8,507,199	1,012,008	2,218,662	23,160,916
1885	11,885,597	8,595,429	818,689	2,437,746	23,737,461
1886	10,445,980	8,082,198	624,893	2,160,056	21,313,127
1887	7,998,568	9,016,575	549,805	1,606,369	19,171,317
1888	9,212,981	9,085,567	736,224	2,194,505	21,229,277
1889	8,736,478	10,647,312	814,718	2,664,549	22,863,057

EXPORTS.

New South Wales exports larger than other colonies.

The export trade of New South Wales, like the import, is larger than that of any other Australian colony, both in regard to the total value and the value per head of population. Compared with the imports generally, the exports, for the reasons which will hereafter appear, usually fall considerably short, though in 18 the exports exceeded the imports by £431,877; but compare with those of other colonies, the extent of the New South Wales exports of home produce is very satisfactory. For the year 1889 the export trade of home production of the Australasian Colonies was:—

	£
New South Wales	17,423,311
Victoria	9,776,670
Queensland	7,511,744
South Australia	3,694,692
New Zealand	9,042,008
Tasmania	1,442,605
Western Australia	748,899

Large re-export trade of certain colonies.

There is a defect in the figures, as far, at least, as two of these colonies are concerned. Victoria and South Australia have each a large re-export trade, especially in raw produce, and it frequently happens that credit is taken for the produce of other colonies in the returns showing the export of home produce. New South Wales was formerly over-credited with the gold received from Queensland for coinage, and is still, to some extent, with regard to tin and copper from Queensland and South Australia. To what extent the Customs value of home produce is overstated in Victoria and South Australia is unknown, but much of the New South Wales produce passing through Victoria for shipment to England is exported as Victorian produce, especially the wool, of which large quantities shipped from Victoria as home produce is really the production of New South Wales. How far this system obtains in other directions it is impossible to say.

Preponderance of home products in exports.

Dividing the exports of New South Wales into two classes—those which are the produce and manufacture of the Colony, and those imported from other countries,—the preponderance of home produce exported is very marked. The figures for the ten years that closed with 1889, which are given herewith, show a large increase in home produce exported, reaching £15,751,818 in 1883 falling, however, in the subsequent years, until in 1886 the amount reached only £11,583,229. The figures for 1887 show a gain of £2,657,133, while those of 1889 are the highest on record, viz., £17,423,311. The decline between 1883 and 1886 is to a great extent due to the fall in the price of wool, and to the losses sustained by reason of the dry season of 1885–6. The exports of produce other than that of the Colony have also shown a decline since 1883, a circumstance to a large extent to be ascribed to the same causes, the decline being very noticeable in the value of wool and tin re-exported.

Home and Foreign Produce Exported.

Year.	Home produce exported.	Foreign produce exported.	Total exports.
	£	£	£
1880	12,007,931	3,674,871	15,682,802
1881	11,955,277	4,352,528	16,307,805
1882	13,189,951	4,487,404	17,677,355
1883	15,751,818	4,510,455	20,262,273
1884	14,063,227	4,514,063	18,577,290
1885	12,059,280	4,690,827	16,750,107
1886	11,583,229	4,134,708	15,717,937
1887	14,240,362	4,281,438	18,521,750
1888	15,544,875	5,375,255	20,920,130
1889	17,423,311	5,871,623	23,294,934

Value of export trade declined, per head.

This table shows that the value of New South Wales produce exported in 1889 exceeded that of any of the previous years, yet the value per head is less, as will be seen by the following figures, than most of the years since 1871. A considerable improvement is visible over the figures of the four previous years, which are, owever, much below those of the perhaps abnormal year 1883. In hat year the exports of domestic produce amounted to £18 17s. 8d. per head, decreasing in 1886 to £11 16s. 7d., or 37 per cent. The igures for 1889 show a marked improvement, being £15 15s. 8d., r £3 2s. less than those of 1883. Greater part of the decrease may be attributed to the fall in wool, coal, and copper. The value of exports per head for each year since 1871 was as follows :—

Value of Exports of New South Wales per head.

Year.	New South Wales produce exported.	Other produce exported.	Year.	New South Wales produce exported.	Other produce exported.
	£ s. d.	£ s. d.		£ s. d.	£ s. d.
1871	18 3 4	3 19 9	1881	15 14 6	5 14 6
1872	15 6 9	4 11 3	1882	16 11 11	5 12 11
1873	18 13 9	4 9 9	1883	18 17 8	5 8 1
1874	18 2 5	3 16 11	1884	15 19 4	5 2 6
1875	19 16 11	3 15 1	1885	12 19 1	5 0 9
1876	17 16 6	3 15 10	1886	11 16 5	4 4 4
1877	17 11 0	3 16 11	1887	13 18 6	4 3 9
1878	16 11 0	3 8 4	1888	14 12 1	5 1 0
1879	15 13 4	3 6 11	1889	15 15 8	5 6 4
1880	16 11 0	5 1 3			

Price-level of exports.

The total value of the exports of the Colony is greatly affected by the prices obtained for certain leading lines of raw produce, of which wool and coal are the most important. In the following table the price-level of exports is given for twenty years, beginning

Price-level.

with 1870. In order to ascertain the price-level, all the princip articles of domestic produce exported have been selected, and t prices of 1870 have been applied to the quantities of each of t subsequent years, and the result compared with the actual tot of such year. The value of the articles included in this tabl amounted in 1889 to 95 per cent. of the total exports, excludin coin, and in no year is the proportion less than 85 per cent. I is considered that this system enables a truer estimate of th relative prices to be obtained than that of selecting the prices certain articles without giving due weight to the quantities such articles exported. The table also shows the relative value wool and coal separately, as compared with the prices ruling 1870, for general produce :—

Year.	Price-level.		
	Domestic Produce.	Wool.	Coal.
1870	1,000	1,000	1,000
1871	1,223	1,262	965
1872	1,114	1,595	1,072
1873	1,181	1,488	1,529
1874	1,170	1,440	1,659
1875	1,167	1,333	1,688
1876	1,105	1,095	1,669
1877	1,013	1,190	1,630
1878	1,009	1,143	1,602
1879	1,048	1,161	1,646
1880	1,027	1,488	1,169
1881	1,020	1,333	931
1882	1,045	1,273	1,233
1883	1,053	1,167	1,307
1884	1,045	1,143	1,299
1885	918	976	1,276
1886	882	976	1,262
1887	906	1,065	1,262
1888	879	1,036	1,245
1889	888	1,198	1,222

Price-level of exports.

The price-level of domestic produce exported in the year 1870, at which the series begins, is below that of any of the following years until 1885 is reached. From 1871 to 1876 prices were high; from 1877 to 1884 they ruled a trifle above the average of the twenty years, and showed very little variation, but since 1884 there has been a persistent tendency to fall. The fluctuations in wool and coal were much greater than those of general domestic produce, but were usually in the same direction, though not exactly parallel. Wool went up rapidly from 1870 to 1872, in which year the highest point was reached. It continued to decline from that date to 1876, and for the next three years remained tolerably steady. In 1880 it again advanced, but fell rapidly from that time until 1885 and 1886, when it reached the lowest point during the series. Since that date there has been a tendency to advance. Coal in 1871 fell somewhat below the level of the previous year, but immediately commenced to rise, until the maximum was attained in 1875. For the next four years there was not much change, but a serious decline took place in 1880, which was continued until, in the following year, the lowest point was touched. Prices then improved until 1883, since which time there has been a scarcely perceptible decline. In regard to coal, the opening of new mines in districts where the mineral is easily worked, accounts in some measure for the fall in the average price since 1879.

Price-level of imports.

It is impossible to establish any general price-level for imports, but taking the export prices of Great Britain as indicating the price-level of imports into Australia, it would appear that prior to 1879 the values of the imports were better sustained than the exports; but since the date mentioned the price-level of imports has fallen proportionately more than the exports, so that local produce had, during these years, an advantage in the exchange for British goods; compared with the export prices, the advantage of exchange was greatest on the side of the imports in 1870, 1872, 1873, 1874, and 1877, and greatest in favour of the exports in 1883, 1884, and 1887.

Value of exports of home production per head.

The value of exports, the produce of the Colony, during the last ten years, compared with those of the other colonies, shows that not only were the exports of New South Wales more valuable in the gross, but, when tested by the standard of population, exceeded those of all the Colonies, with the exception of Queensland and Western Australia. Thus, for the last ten years, the average value of exports per head has amounted to:—

	£	s.	d.
New South Wales	15	3	0
Victoria	11	15	5
Queensland	16	10	6
South Australia	13	7	5
New Zealand	12	5	4
Tasmania	11	2	10
Western Australia	15	15	4

Chief articles of export.

The chief articles of export are wool, coin, coal, live-stock, tin, silver, silver-lead, copper, skins, and tallow. Other articles have also been exported to considerable value in times past, but their importance has disappeared, or is lost in comparison with that of the products just named. Amongst such may be mentioned grain, leather, provisions, and sugar. Of some of these articles there is still a fairly large export, but of none is the export per head so large as formerly, while in the case of sugar it has practically ceased.

WOOL.

Wool the staple export.

Wool is the staple export of the Colony, and comprises considerably more than half the value of the total exports. The quantities and values of the wool exported during each year since 1880 are given in the next table, and from the figures it will be readily seen how greatly the Colony depends for its prosperity upon the produce of its flocks.

New South Wales Wool Exported.

Year.	Weight.	Value.	Year.	Weight.	Value.
	lb.	£		lb.	£
1880	154,871,832	8,040,625	1885	168,151,659	7,246,642
1881	139,601,506	7,149,787	1886	173,985,640	7,028,596
1882	146,221,182	7,433,091	1887	216,450,342	8,911,155
1883	188,161,710	9,598,761	1888	235,848,944	9,089,776
1884	173,986,303	8,953,100	1889	261,853,484	10,620,636

Re-export of wool.

Besides the wool grown in the Colony there has been a large re-export of other wool, chiefly from Queensland. In 1885 the export of foreign wool amounted to slightly more than 10,000,000 lb. weight, valued at £431,605; but in 1889 the quantity had fallen to 4,375,545 lb., of the value of £164,434. The exports, as returned by the Customs, are given herewith; but the quantities fall short of the actual amount, as not a little wool, the produce of other places, was exported in past years as New South Wales wool, on the same principle, probably, that leads to the shipment from Melbourne, as the produce of Victoria, of nearly 40,000,000 lb. weight of wool grown in New South Wales:—

Wool Exported—not the produce of the Colony.

Year.	Weight.	Value.	Year.	Weight.	Value.
	lb.	£		lb.	£
1880	7,614,490	396,909	1885	10,221,766	431,605
1881	7,582,181	381,005	1886	4,664,971	173,380
1882	7,130,162	340,613	1887	7,844,867	288,916
1883	8,878,422	537,483	1888	7,407,309	268,739
1884	9,030,215	429,399	1889	4,375,545	164,434

Severe seasons have affected wool trade.

The severe seasons experienced during the past few years have very materially interfered with the production, and consequently with the exportation, of wool; but the splendid season of 1886–7 was attended with a considerable increase in this staple export, and this improvement has been continued since. There was formerly a disposition to export washed wool; the tendency is now, however, towards the export of wool in grease, except where the conditions as to carriage, &c., are exceptional.

Other exports.

The other animal products—tallow, skins, leather, and such-like—form together an export of considerable value, though, owing to the large local demand, it is not probable that there will be any material increase in the value of these articles exported.

Coal.

Coal, also, forms one of the staple exports of New South Wales, having reached a total value of over £1,319,000. The development of the coal trade of the Colony has been traced in the chapter on Mines and Minerals, and it will be seen that this product is subject to less fluctuation than any other item of export.

Silver.

The export of silver and silver-lead ore has become important since 1884, and bids fair to show considerable increase. The export of locally produced copper and tin revived somewhat during 1888, but fell off very considerably during 1889. Copper declined to the value of about £65,000, and tin to the extent of £167,500. The trade in these metals is still very much below that of 1884 and previous years.

Bullion and specie.

Gold Bullion and specie form one of the most important exports of the Colony. The export during each year since 1871 was—

	£		£
1871	2,329,426	1881	1,957,842
1872	2,394,037	1882	1,733,024
1873	2,936,467	1883	1,703,116
1874	1,953,942	1884	947,513
1875	2,106,074	1885	1,461,478
1876	1,661,772	1886	1,619,278
1877	1,895,030	1887	1,318,917
1878	1,810,670	1888	2,122,337
1879	806,687	1889	3,211,747
1880	863,012		

Taken by itself, the foregoing statement might seem to favour the opinion sometimes hazarded that the Colony is being denuded of its gold. Such is not the case. The gold shipped is chiefly the produce of other colonies, sent to Sydney to be minted; for out of the large sum exported during 1889 only about £47,582 was New South Wales produce. In another part of this volume it has been pointed out that the amount of coin in the Colony is yearly increased, so that the circulation in 1889 was fully twice that of 1878.

Exports of home produce.

Divided into the classes adopted for the imports, the exports f home produce in 1889 appear as follows :—

	£
Food and beverages, including breadstuffs..	389,969
Wine, fermented and spirituous liquor	31,670
Live stock..........................	1,116,232
Animal and vegetable products, including wool ...	11,469,804
Clothing and textile fabrics	17,658
Minerals and metals, raw or partly worked up, not including coal, coin, and bullion	2,612,207
Coal and coke	1,334,314
Specie and precious metals...........	116,650
Articles of education, art, and amusement......	71,610
Manufactured articles not included elsewhere	248,523
Unclassified	14,608
Total	17,423,245

Raw materials largest export.

By far the larger portion of the exports consists of raw materials. As an export manufacturing country New South Wales has not yet achieved any position; and, though its manufactures are of very considerable importance, as will hereafter appear, its own markets furnish so wide a scope for manufacturing industry as to make it improbable that there will be any great development of export trade in home manufactures in the immediate future. So many channels have been presented for the successful employment of capital that little attention has been bestowed upon the possibility of New South Wales supplying other countries with its own manufactures; but as these outlets of capital are closed, the vast possibilities of the country in other directions will doubtless be recognised. The following table has been prepared with the view of showing the relative importance, and the proportion per head of population, of each of the principal articles exported. The preponderance of raw material, and raw material advanced one stage towards the finished manufacture, will be apparent.

Chief articles exported.

Value per Head of the Principal Articles of Home Produce and Manufacture Exported.

Articles.	1879.		1880.		1881.		1882.		1883.		1884.		1885.		1886.		1887.		1888.		1889.	
	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.
Coal	20	1	11	9	11	0	16	3	19	10	21	2	20	9	19	4	18	9	20	0	23	2
Copper	7	5	10	0	9	4	8	2	13	10	9	5	5	8	3	5	3	5	5	2	3	10
Flour	0	4	0	3	0	5	0	9	0	7	0	6	0	4	0	5	0	5	0	10	1	4
Fruit	2	6	2	6	2	10	2	2	2	9	2	3	2	5	2	3	2	11	2	5	2	7
Gold	0	2	0	0½	7	5	3	10	3	1	1	9	1	8	0	9	0	10	0	8	0	7
Grain and pulse	3	10	3	0	3	4	1	7	1	5	1	6	1	9	1	1	1	6	1	6	1	6
Leather	1	10	2	10	3	7	3	7	2	4	2	10	2	3	2	1	1	9	2	6	2	10
Boots and shoes	1	5	1	4	1	2	1	2	1	3	1	3	1	0	0	6	0	8	0	9	0	3
Live stock	26	6	32	11	31	0	46	6	30	9	35	8	24	10	23	0	28	11	35	2	19	11
Provisions	4	5	5	2	5	4	4	5	6	7	4	2	3	10	1	7	3	10	2	5	1	10
Silver and silver ore	0	6	0	7	0	4	0	2	0	5	3	3	5	9	8	8	11	3	21	5	35	8
Skins	4	0	5	1	5	6	6	7	7	1	6	7	5	10	6	2	5	8	5	10	6	11
Sugar	4	11	4	9	3	1	1	10	1	5	0	10	......		......		......		......		......	
Tallow	6	3	9	8	7	0	5	11	8	7	4	6	4	2	3	0	4	9	3	8	3	7
Timber	1	0	0	6	0	7	1	0	1	7	2	4	1	2	1	3	1	8	2	3	1	10
Tin	10	10	13	0	19	1	20	11	19	9	11	10	8	11	9	6	10	3	10	11	7	6
Wool	188	0	221	7	188	1	187	0	230	1	203	3	155	8	143	5	174	4	170	10	192	5

Home produce exported.

The values of some of the principal articles of home produce exported, during 1889, including those mentioned above, were as follows :—

Export of Home Produce.

	£		£
Boots and shoes	13,212	Provisions (meat)	98,747
Coal	1,319,271	Shale (kerosene)	59,835
Copper	210,331	Silver and ore	1,971,198
Flour	74,204	Skins	381,598
Fruit	141,922	Tallow	198,052
Gold	47,587	Timber	102,714
Grain	80,886	Tin	414,987
Leather	154,744	Wool	10,620,636
Live stock	1,113,311		

Trade in live stock.

The number and value of the live stock exported have varied considerably from year to year, being affected greatly by the seasons experienced both in this and the neighbouring colonies.

Export of horses declined.

The export of horses has declined, as far as numbers are concerned, but the values have increased. On the other hand the imports show an increase in number and in value. The figures in respect to horses are to some extent misleading, as the number of thoroughbred racing animals passing backwards and forwards between Sydney and Melbourne, which are entered as exports and imports, gives more importance to the trade than its magnitude really warrants.

Export of cattle and sheep.

The decrease in the number of cattle depastured in the Colony has been attended by a diminished export, and whilst the exportation of sheep has also fluctuated greatly since 1883, the number of horned cattle imported has largely increased. The failure of the pastures throughout a portion of the Colony led to a partial exodus of sheep in 1884, and in 1885 there was a correspondingly large return.

Returns of stock misleading.

But, as in the case of horses, the figures for the export and import of other live stock are to a certain extent misleading, inasmuch as the returns are swollen by the inclusion of stock from one colony to another, in the hope of obtaining b pasturage, or for fattening or breeding purposes. The ge tendency of the trade, however, can be gathered from the below. The total trade in live stock during 1889 was :—

Trade in live stock.

Trade in Live Stock.

Live stock.	Imported.		Exported.	
	Number.	Value.	Number.	Valu
		£		£
Horses..................	4,141	126,839	3,385	143
Horned cattle.........	200,513	823,476	82,771	516
Sheep	832,565	416,935	1,217,325	500
Pigs	3,583	2,589	7,218	12
Other stock	3,714	3,984	3,192	3
Total	1,044,516	1,373,823	1,313,891	1,175

RE-EXPORT TRADE.

Re-export trade considerable.

The re-export trade of the Colony has increased conside during the past decade, but has now reached a point beyond w it is not likely to advance for some years. The shipping faci of Sydney have hitherto attracted to the port a large amou trade from New Zealand, Queensland, and the South Seas, transhipment to Europe; but the establishment of direct com cation between these colonies and Europe has checked to extent the expansion of the re-export trade, though it is probable that it will fall below its present dimensions. Th export overland trade is comparatively limited, amountin 1889 to £372,253, out of a total £5,871,623.

Overland trade in foreign produce.

Value of re-exports.

The total value of the re-exports of the Colony during each of e past ten years was as follows:—

Year.	Seaward.	Overland.	Total.
	£	£	£
1880	3,626,991	47,880	3,674,871
1881	4,291,972	60,556	4,352,528
1882	4,409,153	78,251	4,487,404
1883	4,415,527	94,928	4,510,455
1884	4,380,036	134,027	4,514,063
1885	4,525,883	164,944	4,690,827
1886	3,999,328	135,380	4,134,708
1887	4,120,184	161,254	4,281,438
1888	4,822,269	552,986	5,375,255
1889	5,499,370	372,253	5,871,623

Re-export trade has kept pace with increase of population.

It will be seen that the amount of re-exports has kept pace fairly ith the increase of population, the greatest decline being during 886, which was due in all probability to the depression in trade xperienced almost everywhere during that year. A slight revival ook place in 1887, which was continued through the two following ears, though the ratio per head of population is still below that f 1881-2-3. The subsequent table, giving the value per head of oreign produce exported since 1872, will illustrate its comparative mportance during each year.

Value per Head of Foreign Produce Exported.

Year.	Value.	Year.	Value.	Year.	Value.
	£ s. d.		£ s. d.		£ s. d.
1872	4 11 3	1878	3 8 4	1884	5 2 0
1873	4 9 9	1879	3 6 11	1885	5 0 9
1874	3 16 11	1880	5 1 3	1886	4 4 4
1875	3 15 1	1881	5 14 6	1887	4 3 9
1876	3 15 10	1882	5 12 11	1888	5 1 0
1877	3 16 11	1883	5 8 1	1889	5 6 4

Principal re-exports.

Amongst raw materials the principal articles re-exported are per, tin, and wool; the manufactured articles are chiefly pery, apparel, hardware, iron and steel, books and stationery, boots, beer and spirits, and also large quantities of provisions Grouped under the several heads already adopted for the import and exports, the value of the trade for the year 1889 will be found below :—

Re-export Trade.

	£
Food and beverages, including breadstuffs	520,579
Wines, fermented and spirituous liquors	109,806
Live stock	59,747
Animal and vegetable products, including wool	373,617
Clothing and textile fabrics	432,582
Minerals and metals, raw or partly worked up, not including coin and bullion*	186,840
Specie and precious metals	3,166,797
Articles of education, art, and amusement	158,338
Manufactured articles not elsewhere included	841,092
Articles unclassified by Customs	23,157
Total	5,872,555

Indirect benefit of re-exports.

The benefit derived by the Colony from its re-export trade is indirect and can hardly be estimated. The freights earned by New South Wales vessels carrying such produce do not amount to a large sum, as the carriage is chiefly in other hands. Still the trade is valuable, the probable sum accruing to the Colony from this source being about 5 per cent. on the total value of the trade as shown in the following table :—

Approximate Earnings from Re-export of Foreign Produce.

	£		£
1878	112,468	1884	182,788
1879	115,558	1885	179,193
1880	142,267	1886	133,600
1881	157,700	1887	151,228
1882	175,425	1888	178,511
1883	187,807	1889	293,628

OVERLAND TRADE.

Overland trade affected by railway.

As the major portion of the goods exported overland simply passes through the border colonies of Victoria and South Australia, to Great Britain, the diversion of the trade along the railways of

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* Including coal, to the value of £40

Effect of railways on trade.

Colony to its ports, must be looked upon as a distinct gain was believed that the extension of the trunk railways to the tres of the pastoral industry would have the effect of per- nently diverting a no inconsiderable part of trade from Victoria d South Australia, but the following table will show that such version has only been partial, and that a large volume of trade, pecially to Adelaide, is almost entirely governed by the state of e rivers. A marked increase will be noticed in 1888 and 1889. his was largely due to the requirements of the population of the roken Hill silver-field, whose nearest market is by rail to delaide :—

Overland Trade.

Year.	Imports.	Exports.	Total.
	£	£	£
1878	2,090,611	3,845,648	5,936,259
1879	1,535,421	4,149,047	5,684,468
1880	1,438,155	4,768,542	6,206,697
1881	1,708,648	4,022,461	5,731,109
1882	1,912,409	4,995,645	6,908,054
1883	2,320,495	4,307,623	6,628,118
1884	2,186,553	4,830,770	7,017,323
1885	2,611,130	3,405,073	6,016,203
1886	2,039,168	4,251,800	6,290,968
1887	3,166,573	5,231,454	8,398,027
1888	3,040,010	5,559,681	8,599,691
1889	3,150,698	6,919,491	10,070,189

TRADE OF AUSTRALASIAN COLONIES.

Trade larger than any other colony.

The trade of New South Wales is larger, both in the gross mount and the value per head, than that of any of the other olonies of Australasia. The total trade of each colony, and the rade per head, for the past twelve years are given below; and hough the latter part of the period was one of severe depression, e magnitude of the trade, not only of this Colony but of the rest the group, is very suggestive. In gross amount the trade of ictoria ranks second, but in point of value per head is surpassed South Australia, and, if the average of the last two years be ken, by Western Australia, with Queensland nearly equal.

Trade of Australasian Colonies.—Total Value per Head in Each Colony.

Year.	New South Wales.		Victoria.		South Australia.	
	Total value.	Value per head.	Total value.	Value per head.	Total value.	Value per head.
	£	£ s. d.	£	£ s. d.	£	£ s. d.
1878	28,239,050	42 18 7	31,087,587	37 16 10	11,074,632	45 10 6
1879	27,635,757	40 0 3	27,489,708	32 19 2	9,776,877	38 6 6
1880	29,858,865	41 2 10	30,511,453	35 17 7	11,156,003	42 3 9
1881	33,894,817	44 11 8	32,970,624	37 16 11	9,631,821	34 2 7
1882	39,145,254	49 5 1	34,941,660	39 1 5	12,067,678	41 13 4
1883	41,785,114	50 1 8	34,142,709	37 3 0	11,193,516	37 10 1
1884	41,738,206	47 7 9	35,252,098	37 4 10	12,373,057	40 3 5
1885	40,487,568	43 9 10	33,596,362	34 9 2	11,184,658	35 0 0
1886	37,031,064	37 15 9	30,325,896	30 14 5	9,341,760	29 16 9
1887	37,693,067	36 17 3	30,373,296	29 15 10	10,427,073	33 7 2
1888	42,149,407	39 12 0	37,825,897	35 11 4	12,397,736	39 12 10
1889	46,157,991	41 16 2	37,137,494	33 12 6	14,063,816	43 15 1

Year.	Queensland.		Western Australia.		Tasmania.		New Zealand.	
	Total value.	Value per head.	Total value.	Value per head.	Total value.	Value per head.	Total value.	Value per head.
	£	£ s. d.	£	£ s. d.	£	£ s. d.	£	£ s. d.
1878	6,626,496	32 0 10	807,541	28 16 9	2,640,507	24 6 7	14,771,188	34 17 7
1879	6,514,923	30 8 4	902,182	31 15 0	2,568,572	23 1 11	14,117,711	31 10 1
1880	6,535,456	29 8 10	852,852	29 11 4	2,881,154	25 7 2	12,514,703	26 7 8
1881	7,603,991	34 8 1	907,601	30 15 0	2,986,720	25 9 2	13,517,911	27 7 10
1882	9,852,915	41 9 4	1,091,810	35 18 6	3,258,261	26 19 10	15,267,278	30 1 3
1883	11,509,959	42 19 4	963,856	30 15 0	3,564,236	28 13 3	15,070,037	28 9 5
1884	11,055,840	37 0 3	926,860	28 13 5	3,131,975	24 7 11	14,755,555	26 14 0
1885	11,665,894	36 12 9	1,097,083	33 4 0	3,071,179	23 4 9	14,299,860	25 6 2
1886	11,037,197	32 19 4	1,388,406	37 2 9	3,088,107	22 16 9	13,431,804	23 1 4
1887	12,275,556	34 12 0	1,271,010	30 19 6	3,046,188	21 15 7	13,111,684	21 19 9
1888	12,773,100	33 17 3	1,466,596	34 13 2	2,943,929	20 8 1	13,709,225	22 12 11
1889	13,788,871	34 14 5	1,579,519	36 16 0	3,070,892	20 12 8	15,636,362	25 9 10

BRITISH TRADE.

British trade holds first position.

The British trade holds the first position in regard to value, being larger, in most years, than even the intercolonial trade of the Colony; and if to the value of goods coming directly from Great Britain were added that of goods passing through the neighbouring colonies, but destined for, or coming from, England, the proportion of British trade would be still higher. For, though the nominal trade between Great Britain and New South Wales amounted in 1889 to the large sum of £17,701,103, out of a total trade of £46,157,991, it is probable that the actual value of this trade was considerably more than £25,000,000. The amount of trade as set down in the subsequent table is, therefore, much below the truth, especially in regard to exports, as the larger part of the produce exported to Victoria and South Australia overland is in reality destined for British ports. The seaward trade alone can be given, and this will be found in the following table, for each year since and including 1870:—

Trade with Great Britain.

Year.	Imports.	Exports.	Total British trade.
	£	£	£
1870	3,200,706	2,492,640	5,693.346
1871	3,252,617	4,378,281	7,630,898
1872	3,728,457	4,926,728	8,655,185
1873	5,137,139	6,657,559	11,794,698
1874	4,888,725	5,737,066	10,625,791
1875	6,062,226	6,374,503	12,436,729
1876	5,763,533	5,918,187	11;681,720
1877	6,471,780	6,018,926	12,490,706
1878	6,658,628	5,516,437	12,175,065
1879	6,749,519	5,148,609	11,898,128
1880	6,536,661	7,525,637	14,062,298
1881	8,986,838	7,561,114	16,547,952
1882	11.155,917	7,309,691	18,465,608
1883	10,624,081	9,884,207	20,508,288
1884	11,423,047	7,683,880	19,106,927
1885	11,885,597	7,293,133	19,178,730
1886	10,445,980	6,026,954	16,472,934
1887	7,998,568	6,966,056	14,964,624
1888	9,212,981	8,476,669	17,689,650
1889	8,736,478	8,964,625	17,701,103

INTERCOLONIAL TRADE.

Value of intercolonial trade.

Next in importance to the British trade stands the intercolonial, the value of which amounted in the year 1889 to £10,647,312 imports, and £10,741,045 exports, or a total trade of £21,388,357, a sum considerably larger than the nominal trade with Great Britain.

Year.	Imports.	Exports.	Total trade.
	£	£	£
1877	6,416,757	6,628,822	13,045,579
1878	6,468,978	6,802,373	13,271,351
1879	5,634,808	7,120,840	12,755,648
1880	5,945,788	7,381,172	13,326,960
1881	6,229,916	6,981,456	13,211,372
1882	7,289,823	8,425,903	15,715,726
1883	8,054,390	7,943,332	15,997,722
1884	8,507,199	8,708,323	17,215,522
1885	8,595,429	6,936,139	15,531,568
1886	8,082,198	7,705,863	15,788,061
1887	9,016,575	8,993,324	18,009,899
1888	9,085,567	9,614,615	18,700,182
1889	10,647,312	10,741,045	21,388,357

Trade with other colonies during 1886-1888.

The trade of the other Australasian colonies with New South Wales showed an increase during 1889 of £2,688,175, and of £5,600,296 since 1886. The reason of this advance will be found in the increased value of the wool clip of the year, and the diversion of part of the trade of the Western districts of the Colony from New South Wales seaports to those of the neighbouring colonies. As already pointed out, a great proportion of the intercolonial export trade, especially that which is sent overland, represents produce of this colony ultimately destined for European markets, though credited to the colony to which it is sent in the first instance. The favourable state of the rivers enabled a greater amount of produce to be dispatched to Melbourne and Adelaide during 1887 than in the years since, hence the large advance noted. Similarly with the import trade, the large part of the increase comprises goods originally coming from Great Britain, but purchased in the Melbourne and Adelaide markets. The total value of the intercolonial trade as already stated, amounted during 1889 to £21,388,357, a sum much larger than in any former year, exceeding even 1884, aided as that year was by a fair season and a higher price for wool.

TRADE WITH VICTORIA.

Value of trade with Victoria.

Victoria comes first amongst the colonies of the group, as regards the value of its trade with New South Wales, though its importance has sensibly declined during late years, especially in regard to exports. It is estimated that prior to the extension of the railway system of this Colony into the Riverine districts, nearly one-fourth of its territory, comprising some of the richest districts in the Colony, traded almost exclusively with Victoria. This trade has now been, to a great extent, diverted along New South Wales lines to Sydney; hence the decrease observable, which will be more plainly seen in the table on page 191, showing the overland trade with Victoria.

Large range of articles imported from Victoria.

The import trade of the Colony from Victoria covers a large range of articles, and in this respect differs from the export, which is mainly comprised in three leading items of raw produce—wool, stock, and coal. Dividing the imports from Victoria into two classes, viz., Victorian and other produce, the chief imports under the former class are agricultural implements, butter, breadstuffs, fruit, oats, hay and other fodder, and vegetables; while under the second head come drapery and apparel, drugs, hardware, iron, jewellery, machinery, stationery, and other manufactured articles. Victorian produce, properly so called, comes chiefly to Sydney; the other articles are taken by the southern and western portions of the Colony, which have for many years looked to Victoria as a market whence such supplies are to be derived. The following are

Imports from Victoria.

the values of the principal items of import from Victoria during the last five years :—

Principal Imports from Victoria.

Description of Goods.	1885.	1886.	1887.	1888.	1889.
	£	£	£	£	£
Agricultural implements.....	30,233	26,005	53,229	32,474	36,110
Bags and sacks	17,324	11,773	12,922	9,146	7,469
Beer (in wood and bottle) ...	13,424	11,717	20,309	17,562	17,814
Biscuits	9,873	6,133	3.289	2,122	1,930
Boots and shoes	33,971	28,662	30,772	54,939	25,123
Butter	49,161	35.331	7,986	18,795	8,542
Candles	14,093	4,678	5,668	9,290	5,578
Cheese..............................	4,803	6,304	1,285	2,671	3,828
Cordage and ropes	9,988	6,394	6,248	4,953	4,523
Drapery and apparel .,........	469,959	396,850	366,072	339,167	313,006
Drugs & Apothecaries' wares	59,736	19,038	22,711	24,720	27,275
Earthenware and China	14,543	7,625	9,787	7,209	6,344
Flour	291,999	384,037	364,107	284,928	247,006
Fruit—					
Green	20,901	27,265	14,914	19,628	16,163
Dried	10,757	21,326	17,803	6,733	9,272
Furniture and upholstery ...	42,395	22,120	14.860	19,152	20,091
Gold (coin, bars, and dust)..	62,717	303,312	274,628	125,461	4,178
Grain and Pulse—					
Wheat	23,433	57,729	34,050	15,515	90,764
Oats..............................	16,437	14,201	17,264	103,173	7,090
Others................	15,016	33,109	24,694	17,782	7,472
Hardware	54,122	39,248	39,234	38,464	36,326
Hay and chaff	64,950	183,319	59,492	107,795	116,224
Hops	4,380	3,721	10,398	4,562	3,590
Iron and steel goods	49,161	30,649	41,769	66,604	80,362
Jams and jellies	7,266	8,979	4,019	4,344	3,877
Jewellery	28,443	19,365	7,917	16,600	13,080
Leather	18,863	15,202	17,255	16,137	13,260
Live stock	802,760	225,746	542,588	517,249	335,061
Machinery	68,072	30,537	41,318	52,209	70,378
Malt	6,770	2,937	4,220	3,319	2,008
Musical instruments	18,575	13,347	13,529	14,038	15,912
Oatmeal	21,682	14,025	8,845	17,346	22,134
Oils	12,903	11,428	17,834	12,551	12,349
Paper, books, stationery, &c.	73,168	59,293	56,611	55,666	64,263
Potatoes...........................	134,823	166,986	71,812	97,627	65,854
Saddlery and harness	11,809	7,714	9,872	7,940	8,459
Soap	11,417	7,961	7,777	11,061	12,974
Spirits..............................	34,509	30,075	31,221	23,754	27,593
Sugar (raw)	48,313	36,118	56,104	53,538	62,962
Tea	98,741	93,463	121,731	92,977	83,183
Timber	23,134	18,634	11,951	12,920	13,333
Tobacco, cigars, &c............	19,182	15,151	22,249	20,489	24,581
Toys	19,089	9,132	11,569	17,822	13,235
Vegetables (green) and onions	43,064	35,275	32,633	36,667	26,711
Wines..............................	9,004	7,004	7,780	6,372	6,217
Woolpacks........................	10,335	9,646	22,713	13,958	16,449

Wool export.

The chief export to Victoria is wool, forwarded to Melbourne for shipment to London and other European ports. A large quantity of this wool is shipped to Europe as the produce of Victoria, on account of the fact that better prices are generally obtained for "Port Phillip" wool. The value of wool exported to Victoria during the last twelve years was:—

	£		£
1878	2,154,301	1884	2,229,873
1879	2,709,736	1885	1,868,019
1880	3,224,289	1886	1,931,278
1881	2,783,969	1887	2,451,552
1882	2,396,528	1888	2,187,759
1883	2,502,205	1889	2,952,107

The export for 1889 shows a considerable increase, and is the largest value for any year since 1880. The decrease in previcus years is chiefly owing to the decline in the market value of the staple, and partly to the extension of the railways which has diverted much of the traffic from the old routes.

Export of stock

Live stock of all kinds forms a large portion of the exports to Victoria, though the imports, especially of sheep, have also been considerable; and in 1885 the balance of trade was in favour of the southern colony. Victoria has already reached the limit where the demand for meat exceeds the cast of stock; and is, therefore, dependent upon the other colonies, especially New South Wales, for the supply of the deficiency, the amount of which is little short of one-fourth of the whole consumption.

Export of coal

Coal is next in importance as an export of this Colony to Victoria, the value during 1889 being £488,344. The only other produce worthy of special note are skins and timber, the former being sent to Victoria for re-export. The following table gives the trade of each year since 1870; but as no records were kept during certain years in which border duties were not collected, the totals for such years are necessarily only approximate. The figures since 1874 are, however, exact.

Trade with Victoria.

Year.	Imports.	Exports.	Total.
	£	£	£
1870	1,153,695	2,583,552	3,737,247
1871	1,698,236	4,577,559	6,275,795
1872	1,188,781	2,858,191	4,046,972
1873*	....	3,366,963	....
1874	1,349,062	3,614,456	4,963,518
1875	2,066,156	4,269,770	6,335,926
1876	2,376,777	4,043,566	6,420,343
1877	2,531,449	3,898,129	6,429,578
1878	2,897,503	3,694,434	6,591,937
1879	2,234,381	4,177,871	6,412,252
1880	2,187,119	4,578,867	6,765,986
1881	2,414,590	4,052,694	6,467,284
1882	2,770,245	3,781,421	6,551,666
1883	3,012,268	4,170,599	7,182,867
1884	3,064,816	4,170,497	7,235,313
1885	3,309,696	3,450,796	6,760,492
1886	2,789,700	3,697,343	6,487,043
1887	2,894,681	4,773,815	7,668,496
1888	2,472,621	5,455,196	7,927,817
1889	2,419,038	5,385,300	7,804,338

* No Returns of the overland trade for this year.

Exports to Victoria.

The following table shows the value of the principal articles exported to Victoria during five years :—

Principal Exports to Victoria.

Description of Goods.	1885.	1886.	1887.	1888.	1889.
	£	£	£	£	£
Coal..................................	291,161	336,979	379,206	406,744	488,344
Coin—Gold	......	45,000	......	......	200,000
Copper	3,958	4,658	12,590	7,257	7,735
Flour	10,336	17,043	10,463	11,969	5,854
Fruit (fresh)	55,834	55,861	73,760	60,014	71,069
Grain and Pulse—					
Wheat............................	2,531	17,159	14,991	18,667	21,709
Others............................	12,057	17,102	5,203	5,339	45,572
Kerosene shale	11,386	12,942	13,703	12,703	12,595
Live stock	692,947	696,028	1,112,720	1,636,530	918,487
Periodicals, books, paper, stationery, &c.	663	1,783	28,190	20,710	53,866
Skins	109,222	66,777	70,334	81,043	59,126
Timber	25,960	42,224	54,081	83,188	89,524
Wool	1,867,359	1,931,278	2,451,552	2,187,759	2,952,107

Overland trade with Victoria.

The greater portion of the exports to Victoria, as well as nearly half the imports, are borderwise. The value of the imports overland, however, fell greatly, from the causes already specified, during the year 1886, when they reached only £874,680, or scarcely one-third of the total value of goods imported, increasing again in 1887 to £1,418,212, or about the normal average. The value in each of the past twenty years was:—

Overland Trade with Victoria.

Year.	Imports.	Exports.	Total.
	£	£	£
1870	448,308	1,811,848	2,260,156
1871	491,632	3,027,714	3,519,346
1872	464,185	2,123,622	2,587,807
1873*	....	2,758,116	....
1874	452,086	2,812,477	3,264,563
1875	945,049	3,546,674	4,491,723
1876	1,246,880	3,294,795	4,541,675
1877	1,360,171	2,869,945	4,230,116
1878	1,357,715	2,661,639	4,018,754
1879	933,999	3,394,764	4,328,763
1880	963,620	3,824,310	4,787,930
1881	1,210,931	3,229,664	4,440,595
1882	1,217,120	2,867,810	4,084,930
1883	1,266,330	2,955,808	4,222,138
1884	1,331,908	3,118,389	4,450,297
1885	1,555,139	2,450,444	4,005,583
1886	874,680	2,537,549	3,412,229
1887	1,418,212	3,421,254	4,839,466
1888	1,005,497	4,029,349	5,034,846
1889	1,106,864	3,681,588	4,788,452

* No returns of the overland trade for this year.

TRADE WITH QUEENSLAND.

Trade with Queensland.

Queensland ranks next to Victoria in regard to the value of its trade with New South Wales, which in some respects is even more important than that of the southern colony. The estimated value of the imports and exports since 1870 is given herewith. It is possible that the amounts are somewhat understated, as there is a good deal of trade in stock which does not come under the cognisance of the Customs officers. Though New South Wales and Queensland have a common boundary of 900 miles, the overland trade, except in live stock, is not large. If, however, the value of stock be added, the figures reach a very large total, as will be seen from the subjoined tables:—

Trade with Queensland.

Year.	Imports.	Exports.	Total trade.
	£	£	£
1870	1,240,877	639,761	1,880,638
1871	1,921,790	715,287	2,637,077
1872	2,150,452	1,053,386	3,203,838
1873	2,248,609	953,017	3,201,626
1874	2,569,989	1,138,880	3,708,869
1875	2,521,310	1,238,226	3,759,536
1876	2,117,318	1,179,291	3,296,609
1877	2,476,141	1,830,209	4,306,350
1878	2,149,534	1,390,147	3,539,681
1879	2,206,094	1,444,769	3,650,863
1880	2,224,421	1,362,262	3,586,683
1881	2,169,105	1,959,925	4,129,030
1882	2,149,766	3,012,782	5,162,548
1883	2,951,558	2,314,087	5,265,645
1884	2,983,178	2,387,085	5,370,263
1885	2,913,588	2,174,266	5,087,854
1886	2,908,017	1,829,586	4,737,603
1887	3,517,745	2,026,598	5,544,343
1888	3,477,603	1,973,968	5,451,571
1889	4,667,700	1,747,853	6,415,553

Imports from Queensland.

The imports from Queensland are chiefly comprised under a few items. The value of wool imported during 1889 was £320,730, being entirely for re-export. Stock was imported to the value of £832,519 of which £703,821 represented cattle. Below will be found the value of the principal imports during the last five years:—

Description of Goods.	1884.	1885.	1886.	1887.	1889.
	£	£	£	£	£
Boots and shoes	2,969	1,889	10,596	2,020	2,957
Drapery, apparel, &c.	15,233	9,690	11,946	10,800	18,603
Fruit (fresh)	8,295	20,332	22,411	15,921	24,968
Gold (bars and dust)	1,021,551	1,265,972	1,534,236	1,736,343	2,774,531
Live stock	151,334	386,367	556,172	479,366	832,519
Meat (preserved)	146,235	635	11,998	47,551	4,286
Skins	145,893	113,103	106,304	110,404	109,487
Sugar (raw)	169,770	241,772	268,469	211,153	321,071
Tallow	81,275	21,328	41,990	42,223	32,282
Wool (greasy and washed)	507,061	276,714	305,549	203,880	320,730
Tin (ingots and ore)	118,918	144,580	206,606	183,314	137,715

Exports to Queensland.

The exports have varied greatly in value from year to year through causes similar to those affecting the imports; they comprise a large number of items, mainly of re-export. The values of the chief articles, exported from New South Wales to Queensland, have been as follows in the years named:—

Description of Goods.	1885.	1886.	1887.	1888.	1889.
	£	£	£	£	£
Boots and shoes	27,978	11,776	23,993	18,976	38,407
Butter	7,262	1,684	7,509	7,903	11,744
Coal	29,105	12,151	10,625	4,098	3,932
Coin (gold)	215,100	397,000	259,500	278,000	312,000
Flour	1,292	1,618	7,855	28,729	176,816
Fruit (fresh)	38,417	36,514	44,039	46,786	70,226
Grain and pulse—					
Maize	59,527	20,136	50,426	45,332	30,952
All others	4,009	1,653	5,575	7,921	35,114
Iron and steel	1,288	1,536	3,829	13,538	47,899
Live stock	99,334	119,449	216,568	63,695	131,743
Timber	10,193	4,650	19,495	26,942	14,250
Tin	22,095	18,949	20,002	16,625	15,259
Wool	13,432	10,890	3,872	734	5,280
Hay	17,213	3,214	4,085	7,940	12 391

Fluctuations in overland trade.

The most remarkable year in the series given on page 192 was 1882, when the export trade reached £3,012,782, the overland export trade amounting to £1,206,408. Of this sum £1,149,835 represents the value of stock exported, viz., 3,035 horses, valued at £25,525; 29,404 cattle, valued at £302,590; and 1,645,657 sheep, of the value of £821,720. During 1886 the value of stock exported was very much less than in previous years, amounting to only £119,449; while, in 1887, the value rose to £216,568. The fluctuation in the value of stock exported will account for the variation in the amounts shown in the following table:—

Overland Trade with Queensland.

Year.	Imports.	Exports.	Year.	Imports.	Exports.
	£	£		£	£
1877	257,807	394,502	1884	493,680	424,940
1878	345,691	229,255	1885	669,739	337,023
1879	312,118	118,112	1886	722,454	317,846
1880	231,161	245,651	1887	1,035,123	297,009
1881	261,948	494,793	1888	879,589	170,530
1882	282,726	1,206,408	1889	951,739	506,247
1883	649,843	569,263			

TRADE WITH SOUTH AUSTRALIA.

Trade with South Australia.

The trade with South Australia is perhaps more variable than with any other Colony, depending, as it does, so largely on the state of the Murray and Darling Rivers. In the subsequent table the years that are marked by a large export trade are those in which the rivers afforded special facilities for navigation. Such years were 1876, 1878, 1882, 1884, 1886, and 1887; and the border trade was also largely increased by the requirements of the population of Broken Hill silver fields since 1887. The total imports and exports during each year since and including 1871 are annexed:—

Trade with South Australia.

Year.	Imports.	Exports.	Year.	Imports.	Exports.
	£	£		£	£
1871	724,825	490,646	1881	692,781	454,764
1872	653,903	442,016	1882	1,017,685	1,085,194
1873	598,527	630,537	1883	841,109	969,083
1874	574,421	657,768	1884	1,002,174	1,502,366
1875	987,933	654,232	1885	890,335	810,953
1876	1,165,706	670,138	1886	828,174	1,585,830
1877	811,292	352,825	1887	1,259,758	1,740,517
1878	889,691	1,053,642	1888	1,831,436	1,661,446
1879	721,186	773,611	1889	1,858,621	2,999,664
1880	690,407	830,256			

Imports from South Australia.

The list of imports is a long one, but the principal articles were as follows :—

Description of Goods.	1885.	1886.	1887.	1888.	1889.
	£	£	£	£	£
Beer	13,495	11,850	18,855	45,552	36,761
Boots and shoes	8,451	14,483	21,002	16,788	28,125
Butter	6,396	3,561	7,171	25,545	20,750
*Coal and coke	11,780	21,554	19,841	64,292	126,047
Copper (ore and ingots)	195,903	148,324	140,530	155,733	179.201
Drapery, wearing apparel, &c.	42,201	53,875	83,197	126,008	123,323
Dynamite, powder, arms, &c.	9,556	7,042	11,183	25,042	17,881
Eggs	......	2,044	7,982	20,978	14,120
Flour	219,320	172,299	308,805	296,199	305,180
Fruit (fresh)	1,879	2,485	4,178	12,592	15,102
" (dried)	4,218	5,327	5,277	5,798	6,532
Furniture and upholstery	5,860	4,877	5.385	27,551	11,321
Gold (coin, bars, and dust)	22,449	37,647	20,886	11,269	38,923
Grain and pulse—					
Wheat	31,236	853	11,338	98,097	122,772
Others	18,407	8,110	28,103	41,704	21,484
Hardware	13,372	14,470	27,080	38,479	22,140
Hay and chaff	30,012	22,800	45,144	102,782	139,647
Iron and steel	22,750	25,446	59,402	109,448	69,978
Jams and jellies	10,799	10,041	11,784	10,799	10,741
Live stock	16,537	32,708	27,641	18,318	49,365
Machinery	12,497	15,396	37,339	69,482	55,832
Potatoes	5,826	6,039	8,204	10,713	16,867
Paper, books, stationery, &c.	2,726	4,028	5,446	12,192	9,280
Spirits	20,545	25,972	35,378	29,901	28,310
Sugar (raw)	12,284	14,445	16,804	20,754	25,175
Tea	6 628	8,712	14,547	13,875	14,137
Timber	12,876	17,311	70,514	113,503	80,168
Tobacco, cigars, &c.	5,570	7,238	12,079	14,666	12,001
Vegetables and onions	1,116	1,388	3,316	8,687	10,825
Wines	5,502	6,912	6.785	13,190	9,396

* Mostly New South Wales produce re-exported.

The exports to South Australia are chiefly silver and lead, and wool; the values of the principal items for the last five years are as follows:—

Description of Goods.	1885.	1886.	1887.	1888.	1889.
	£	£	£	£	£
Boots and shoes	10,472	7,409	7.468	3,439	17,686
Coal	74,535	73,063	62,715	51,370	92,756
Coin (gold)	6,000	39,000	17,000	41,000	5,000
Coke	400	4,557	5,098	18,410	13,505
Live stock	140,375	92,574	57,992	62,702	91,603
Silver ingots, lead ore	108,671	372,064	530,462	1,001,749	1,847,178
Skins	4,435	4,766	10,583	16,253	20,002
Wool	281,407	857,940	872,896	244,388	784,802

Overland trade with South Australia.

The records of the overland trade cannot be procured with exactness beyond the year 1876, but the time which has elapsed since the year named is amply sufficient to illustrate the great variations in the value of the exports. The import trade is much more regular, and until the year 1887 showed no great tendency to increase. In 1888, however, there was a marked advance, decreasing slightly in 1889, while the export trade fully doubled that of the previous year. This expansion is due to the requirements of the newly-found silver-fields of the north-west, and the imports from South Australia *viâ* Thackaringa amounted to £944,293 during 1889. It is anticipated that the extensions of the railway system of this Colony to the banks of the Darling at Bourke and Wilcannia will eventually divert not a little of the traffic which has hitherto gone to Adelaide. The certainty of speedy delivery, and the less amount of handling to which goods will be subjected, will probably more than compensate for the additional expense of delivery at the ship's side:—

Overland Trade with South Australia.

Year.	Imports.	Exports.	Year.	Imports.	Exports.
	£	£		£	£
1877	253,838	210,414	1884	360,965	1,287,441
1878	387,205	954,754	1885	386,252	617,606
1879	289,304	636,171	1886	442,034	1,396,403
1880	243,374	698,581	1887	713,238	1,513,241
1881	235,769	298,004	1888	1,154,924	1,359,802
1882	412,563	921,427	1889	1,092,095	2,731,656
1883	404,322	782,552			

Victoria displacing South Australia in N.S.W. markets.

The prominence which Victoria has assumed of recent years as a wheat-growing country, acts detrimentally to the trade of South Australia, for much of the breadstuff consumed in New South Wales, which was formerly obtained from Adelaide, is now procured from Victoria. The falling-off in this staple commenced about the year 1878, and is coincident with the development of the Victorian trade in flour and wheat, as will be seen from the following table, showing the value of wheat and flour imported from each of these colonies :—

Wheat and Flour Imported from Victoria and South Australia.

Year.	Value of imports from South Australia.		Value of imports from Victoria.	
	Wheat.	Flour.	Wheat.	Flour.
	£	£	£	£
1870	76,397	123,958	20,758	33,986
1871	260,346	201,963	6,205	33,992
1872	105,523	205,042	7,833	7,715
1873	144,592	201,332	539	17,677
1874	141,675	230,251	1,423	4,180
1875	197,263	289,385	1,514	1,296
1876	187,444	295,371	902	2,188
1877	154,284	261,918	9,765	32,305
1878	116,089	251,246	34,401	153,126
1879	63,973	221,174	13,280	76,310
1880	42,340	263,546	43,249	126,142
1881	19,406	269,342	33,165	113,796
1882	62,117	321,127	23,680	194,823
1883	9,195	229,617	38,794	237,342
1884	36,460	299,274	23,907	216,546
1885	31,236	219,320	23,433	291,999
1886	853	172,299	57,729	384,037
1887	11,388	308,805	34,050	364,107
1888	98,097	296,199	103,173	284,928
1889	122,772	305,180	90,764	247,006

TRADE WITH TASMANIA.

Trade with Tasmania.

The trade of New South Wales with Tasmania promises to develop into one of great importance, and its growth during the period comprised in the following table must therefore appear

Articles imported from Tasmania.

satisfactory. It will, however, be seen that the imports largely exceed the exports, though the latter were higher in 1889 than in any previous year. The chief imports are tin, entirely for the purpose of re-export; green fruit, potatoes, and other agricultural produce. The principal articles of import worthy of note are as follows:—

Description of Goods.	1885.	1886.	1887.	1888.	1889.
	£	£	£	£	£
Bark	33,454	29,550	27,254	25,284	19,111
Chaff and hay	6,407	10,746	30	8,775	31,737
Fruit (green).........	87,193	93,722	68,742	60,853	101,598
Jams and jellies ...	46,877	33.760	28,182	23,877	12,344
Gold (bars and dust)	....	....	21,986	303	....
Live Stock—Sheep.	28,397	15,590	20,382	32,544	41,065
Oats	1,400	15,127	1,587	631	6,735
Potatoes	37,867	61,344	68,815	23,844	148,363
Tin—Ingots	293,251	297,736	304,507	306,824	98,407

Articles exported to Tasmania.

The export trade embraces a large number of articles, though coal is the only one which reaches any considerable amount. The value of coal exported to Tasmania in 1889 was £31,913. The other exports consist of manufactured articles, chiefly the produce of Great Britain.

Year.	Imports.	Exports.	Year.	Imports.	Exports.
	£	£		£	£
1871	107,00	23,049	1881	481,529	83,949
1872	103,018	54,993	1882	614,923	85,673
1873	128,770	36,044	1883	666,399	120,662
1874	145,865	52,127	1884	575,501	117,872
1875	167,870	44,274	1885	582,177	108,758
1876	207,075	53,484	1886	606,740	110,776
1877	374,393	57,168	1887	587,315	131,477
1878	286,343	75,453	1888	515,378	117,239
1879	188,064	82,842	1889	505,590	174,852
1880	383,106	81,484			

TRADE WITH NEW ZEALAND.

Trade with New Zealand.

New Zealand gave promise at a former period of being one of the leading customers of this Colony, but, from various causes, both the imports and the exports fell away very considerably. The trade lost has, however, been partly recovered, though the exports are still materially less than in 1879, as will be seen from the following figures :—

Year.	Imports.	Exports.	Year.	Imports.	Exports.
	£	£		£	£
1871	881,501	285,463	1881	471,911	427,295
1872	326,369	228,930	1882	737,204	454,853
1873	198,368	279,153	1883	583,056	358,627
1874	233,981	273,910	1884	881,530	506,714
1875	135,480	362,764	1885	899,623	369,055
1876	258,441	480,241	1886	949,567	427,640
1877	223,482	489,856	1887	757,076	300,937
1878	245,907	588,419	1888	788,003	393,288
1879	285,083	639,051	1889	1,195,090	416,824
1880	460,735	525,174			

Chief imports.

The imports consist chiefly of timber, agricultural and dairy produce. The value of the principal articles is given herewith :—

Description of Goods.	1885.	1886.	1887.	1888.	1889.
	£	£	£	£	£
Butter	124,179	110,046	21,206	56,566	51,602
Cheese	19.908	30,350	3,638	11,998	18,029
Drapery, apparel, &c. ...	11,807	10,319	17,423	43,449	33,721
Flour	11,301	66,658	8,617	40,920	131,885
Gold, bars and dust	67,221	186,164	262,344	61,951	61.780
Grain and pulse—Wheat	40,876	86,608	3,476	87,155	270,818
Do Oats...	164,890	109,780	143,604	118,307	125,824
Do Other	46,247	46,657	33,355	47,126	75,539
Gum	351	199	800	22,694	6,318
Live stock	91.812	49,578	16,364	8,195	9,639
Malt	19,885	15,139	8,681	2,107	9,085
Meat (preserved)	22,984	11,643	6,299	15,084	13,586
Do Bacon, &c.	16,661	21,207	25,590	13,553	19,552
Oatmeal	13,876	9,101	8,849	9,077	18,354
Potatoes	43,244	25,874	30,247	47,110	97,184
Timber	101,237	83,966	83,692	81,403	81,451

Exports to New Zealand.

The value of the principal articles exported to New Zealand during each of the past five years was as follows :—

Description of Goods.	1885.	1886.	1887.	1888.	1889.
	£	£	£	£	£
Coal	98,542	90,187	81,478	74,841	85,347
Coin, gold	100,000	215,000	87,000	190,000	110,000
Fruit, fresh	15,468	14,304	19,114	15,007	15,897
Manures	16,521	9,390	11,554	5,801	13,962
Timber	12,198	8,367	5,927	7,844	9,022

TRADE WITH OTHER BRITISH POSSESSIONS.

Besides the Australasian Colonies and Great Britain, the only other British possessions whose trade with New South Wales is at all considerable are Fiji, Hongkong, and India. With the Fiji Islands the trade is still valuable, though decreasing. In 1876 the imports from these Islands were valued at £29,610, and the exports at £71,477, being a total of £101,087, while in 1889 the imports had risen in value to £129,742, and the exports to £84,833, representing a total trade of £214,575. The imports in 1885 were valued at £192,540, so that there has been a marked decline since that year, while the exports were less in 1889 than in any of the previous ten years, with the exception of 1887 and 1888, and did not much exceed 34 per cent. of the figures of 1883.

Hongkong trade.

The import trade from Hongkong consists principally of opium, tea, tobacco, sugar, and rice, but large quantities of China oil, flax, hemp, and matting, as well as Chinese fancy goods, are also imported. The export trade for 1889 is chiefly composed of the following items:—Coin to the amount of £175,054; coal, £56,248; bêche-de-mer, £6,117 ; fungus, £12,712 ; iron and steel, £4,001 ; lead, £2,633 ; and old metal, £9,076.

India trade.

The Indian trade has grown up almost entirely since 1880, in which year it amounted to only £20,264, increasing to £422,137 in 1884, though falling off greatly in the two following years, expanding again in 1887 to £321,067, but again declining in the following year. During 1889 a total of £306,498 was reached. The figures given show the value of imports and exports during the last ten years:—

Trade with India.

Year.	Imports.	Exports.	Total trade.
	£	£	£
1880	653	19,611	20,264
1881	27,871	142,053	169,924
1882	72,739	345,312	418,051
1883	108,154	310,608	418,762
1884	128,185	293,952	422,137
1885	117,208	122,066	239,274
1886	100,905	89,299	190,204
1887	147,559	173,508	321,067
1888	208,989	42,791	251,780
1889	169,619	136,879	306,498

Goods chiefly imported from India.

Castor oil is an article very largely imported from India, the value of oil received during 1889 being £51,674. There is also a large trade in woolpacks, the importations amounting to £28,320; and in bags and sacks, of which goods to the amount of £32,812 were received. The only other articles imported during 1889 in any quantity were rice, £5,196, and tea, £14,515. There were no importations of grain and pulse during the year, except wheat to the value of £10,000.

Export trade.

The outward trade with India is confined almost entirely to coal and copper; of the former the export was valued at £37,207, and of the latter £53,830—the two items mentioned comprising a value of £91,037, out of a total export trade during 1889 of £136,879. The great falling-off noticeable since 1882–3 is due to the decline in the copper trade, and in the amount of gold coin exported, which, in the year 1882 was £242,258, and in 1883 £232,541, but in 1889 only £12,000.

Chief trade of Colony with Britain and dependencies.

To what extent the trade of the Colony follows the British flag may be gathered from the following figures, which show not only the value of the trade of New South Wales with Great Britain and her dependencies during the past thirteen years, but also the proportion which that trade bears to the whole :—

Trade with Great Britain and British Possessions.

Year.	Imports from Great Britain and British possessions.	Percentage of total imports.	Exports to Great Britain and British possessions.	Percentage of total exports.
	£		£	
1877	13,621,916	91·70	12,999,571	96·59
1878	13,694,884	90·66	12,650,708	96·34
1879	13,032,949	89·86	12,573,104	95·71
1880	13,021,783	91·85	15,210,314	97·00
1881	15,797,631	89·82	15,008,960	92·05
1882	19,269,165	89·73	16,470,481	93·18
1883	19,383,052	90·03	18,670,373	92·15
1884	20,942,254	90·42	17,221,650	92·69
1885	21,299,715	89·74	14,794,052	88·33
1886	19,153,071	89·86	14,250,570	90·66
1887	17,564,948	91·62	16,485,109	89·00
1888	19,034,772	89·66	18,508,498	88·47
1889	20,198,508	88·34	20,281,259	87·06

FOREIGN TRADE.

Uniform increase of foreign trade.

The value of the trade of the Colony with countries other than those under British dominion shows a large increase since 1880, as will be at once seen from the subjoined table. The import trade is marked by a fairly uniform growth, while the export trade, though less regular, showed proportionately a more considerable increase. During 1881 the value of imports advanced £635,101, and the exports £826,357, an increase due mainly to the peculiar development of trade with the United States; while the large expansion found in the subsequent years arose from the

Foreign Imports and Exports.

stablishment of direct trade with France, Belgium, and Germany. The total value of imports shows a large decline in 1887, which is chiefly due to a falling-off in the United States trade, though a sensible decline may be also observed in the imports from other leading foreign States, however, the lost ground was more than recovered in 1889.

Year.	Imports.	Exports.	Year.	Imports.	Exports.
	£	£		£	£
1877	1,230,862	458,329	1884	2,218,662	1,355,640
1878	1,409,761	483,697	1885	2,437,746	1,956,055
1879	1,470,877	558,827	1886	2,160,056	1,467,367
1880	1,154,280	472,488	1887	1,606,369	2,036,641
1881	1,789,381	1,298,845	1888	2,194,505	2,411,632
1882	2,200,734	1,206,874	1889	2,664,549	3,013,675
1883	2,139,789	1,591,900			

THE UNITED STATES.

United States largest foreign market.

The United States is the largest foreign market of the Colony, the value of both the imports and exports far exceeding that of any other country. The import trade has been marked by a very uniform rate of increase, and during the years 1885 and 1886 exceeded £1,000,000. In 1887, however, there was a marked fall in the amount of the import trade, the value declining from £1,018,773 to £693,420, or nearly one-third. The figures for the following year show an advance, and those for 1889 are the highest in the list. The export trade has, on the other hand, been very variable. The largest increase in any one year was in 1881, when the exports amounted to £694,314 more than in the previous year, the increase consisting almost entirely of gold, which was exported to the value of £647,323. Similarly, the increase in 1885 over 1884 is due to the same cause—the export of gold in the former year amounting to £726,653.

Trade with the United States.

Year.	Imports.	Exports.	Year.	Imports.	Exports.
	£	£		£	£
1877	481,565	108,273	1884	954,665	366,732
1878	622,261	128,805	1885	1,008,572	985,531
1879	546,630	211,206	1886	1,018,773	521,216
1880	387,056	172,648	1887	693,420	934,443
1881	587,865	866,962	1888	967,528	1,044,144
1882	886,171	676,598	1889	1,094,697	1,130,589
1883	922,574	872,983			

Class of goods imported from United States.

The imports comprise a large number of articles, amongst which the following are the most important, the values given being those for 1889 :—

Timber—undressed, dressed and worked up	£112,929
Hardware	79,396
Tobacco, cigars, &c.	34,677
Beer	8,647
Carriages, and carriage materials	39,226
Kerosene	58,251
Fish (preserved)	56,555
Watches and clocks	9,756
Machinery	53,140
Leather	22,716
Furniture	20,595
Agricultural implements	5,703

The other articles imported are mostly manufactured goods. In most years there has been a fairly large import of breadstuffs from the United States, and during 1886 the value of such imports was £96,216; in 1889 the value of flour imported reached £54,490, and wheat £142,397.

Exports to America.

The exports to the United States are chiefly confined to a few articles of raw material, the produce of the Colony, the principal of which are gold, coal and shale, tin, wool, and kangaroo skins. No other goods are exported in considerable quantities. During the year 1889 the amount of export of the articles mentioned above was —

Gold, coin	£751,220
Coal	226,956
Tin	97,560
Skins (chiefly kangaroo)	16,864
Shale	8,795
Wool	12,997

Large export of gold to United States.

For some years past there has been a considerable export of gold to America, the quantity sent away during 1885 and 1889 being especially large. This export practically commenced in 1880, and the value of the precious metal both coined and uncoined exported since the year named was :—

Gold Exported to America.

Year.	Value.	Year.	Value.
	£		£
1881	647,323	1886	229,137
1882	382,347	1887	651,612
1883	564,316	1888	578,488
1884	106,719	1889	751,220
1885	726,653		

The United States forms one of the natural markets for the wool of the Colony ; but, owing to the restrictions placed by the United States tariff upon its importation, the trade in this commodity is extremely limited.

BELGIUM.

Trade with Belgium.

The direct trade between this Colony and Belgium began in 1881, and may, to a large extent, be attributable to the International Exhibition held in Sydney during 1879–80. In the year mentioned the combined imports and exports amounted to only £26,237, while in 1889 they had risen to £814,530, which cannot but be regarded as an enormous increase in so short a time. In point of value the Belgian trade of the Colony is larger than that of any other foreign country, the United States and Germany alone excepted, exceeding during 1889 that of France by £530,526.

Principal imports.

The goods imported from Belgium comprise a large number of articles. Iron in its various manufactures, and in bars, plate and wire, glassware, candles, drapery, cigars, cement, and starch are all imported to some extent, though the trade in each commodity is subject to considerable fluctuation.

Belgium a large purchaser of N.S.W. wool.

The outward trade with Belgium is confined almost entirely to wool, though some tallow is also exported. During 1889 the amount of washed wool sent to Belgian ports was 1,212,133 ℔., valued at £66,457, and 19,121,914 ℔. of greasy wool of the value of £652,211, making a total of £718,668. Belgium is, therefore, next to Great Britain, the largest purchaser of New South Wales wool; for, though the export both to Victoria and South Australia exceeds that to Belgium, it is merely nominal, as very little of the wool is retained in these colonies for home use.

Trade with Belgium.

Year.	Imports.	Exports.
	£	£
1881	21,579	4,658
1882	39,951	21,659
1883	31,162	160,390
1884	74,904	326,488
1885	195,318	399,549
1886	173,831	424,938
1887	37,735	557,710
1888	64,766	723,286
1889	88,843	725,687

FRANCE AND NEW CALEDONIA.

French trade.

The French trade has risen into importance since 1881, as will be seen by the subsequent table. The increase is due almost entirely to the establishment of direct communication between this Colony and the Republic by the Messageries Maritimes Company, but it has been accompanied by a corresponding falling off in the trade with New Caledonia, the chief dependency of France in the South Pacific. For though in 1881 the total value of French imports and exports amounted to only £65,833, as against £284,004 in 1889, those of New Caledonia fell during the corresponding period from £372,926 to £276,811.

Class of goods imported from France.

Wearing apparel and drapery form the largest class of imports from France; the imports of drapery and silk amounted in 1889 to £31,597; of apparel, £5,073; and of boots to £28,474. Next in importance are wines and spirits—the import of former amounted to £24,756, and of the latter to £14,803.

to the value of £7,418; tobacco and cigars, £16,795; watches and clocks, £7,319, and toys, £8,303—are the only other goods largely mported. Large quantities of French goods are imported from reat Britain; but the indirect trade in these will probably soon e superseded by direct trade, and the cost of commission and uble handling thus saved to the Colony.

Wool chief export to France.

Wool forms the chief export to France. The value exported uring 1889 was £59,637. Sheepskins to the value of £21,128 re also exported:—

Trade with France.

Year.	Imports.	Exports.
	£	£
1881	64,118	1,715
1882	98,176	9,744
1883	211,722	24,786
1884	218,755	183,890
1885	345,231	142,104
1886	216,193	149,509
1887	157,732	85,151
1888	154,856	120,723
1889	179,900	104,104

New Caledonian trade.

As already pointed out, New Caledonia is an important market or the produce of the Colony, though its value has been coniderably affected by the establishment of a regular communiation between France and her dependency. The trade with New aledonia reached its highest point in 1882, when produce was mported into New South Wales to the value of £273,370, and xported to the amount of £228,280. Since that year the imports nd exports show a very considerable decline, until 1889, as here hown:—

Trade with New Caledonia.

Year.	Imports.	Exports.	Year.	Imports.	Exports.
	£	£		£	£
1880	122,299	181,703	1885	82,181	153,094
1881	188,745	184,181	1886	64,952	111,332
1882	273,370	228,280	1887	70,676	137,212
1883	152,096	212,528	1888	68,637	153,957
1884	107,509	210,552	1889	85,582	189,660

GERMANY.

Trade with Germany.

A large trade has been maintained with Germany since 187 when direct communication practically commenced by the runnin of the North German Lloyd's line of steamers now tradin between Hamburg and Sydney. This trade bids fair to develo into considerable dimensions, as will be seen from the followin list, which shows the values of the principal articles importe from Germany during 1889. The only other articles besides the of which the import was noteworthy, were paper and stationer picture frames, starch, drugs, chemicals, and glassware :—

	£
Cement	5,917
Musical Instruments	64,094
Apparel, drapery, boots, &c.	104,271
Iron and iron manufactures, including hardware.	46,047
Spirits	44,222
Sewing machines	16,808
Tobacco and cigars	23,301
Beer	11,144
Fancy goods and toys	21,140
Watches and clocks	1,609

Wool chief export to Germany.

The exports consisted almost entirely of wool, the value which, in 1889, was £505,927, out of a total export of £519,4 This increase in the wool export is due to the greater facilities n existing for direct shipment.

Year.	Imports.	Exports.	Year.	Imports.	Exports
	£	£		£	£
1879	32,436	4,775	1885	372,557	29,511
1880	47,169	......	1886	361,612	54,471
1881	124,910	11,993	1887	296,952	100,012
1882	180,951	11,661	1888	481,009	128,546
1883	213,709	7,947	1889	533,082	519,435
1884	337,881	43,979			

CHINA.

Trade with China.

The only other country whose trade with New South Wal reaches a large figure is China. The imports and export credited to Hongkong, however, belong in reality to the countr generally, and the diminution which is seen in the China trade since 1881, is to be attributed in no small degree to the transference of part of the trade from the ports of the Empire to Hongkong. Still, when allowance is made on this score, it will be found that the actual loss of trade is by no means inconsiderable. The main import from China is tea, and no perceptible decline is observable in the consumption of the article; but the total import has fallen off, owing to a decrease in the quantity required for re-export, which denotes a loss to the Colony, and to the increased consumption of Indian tea. The direct export trade has never been large. Most of the goods intended for Chinese consumption pass through Hongkong, and do not appear as exports to China.

Small direct export trade.

Year.	Imports.	Exports.	Year.	Imports.	Exports.
	£	£		£	£
1880	358,129	14,844	1885	303,595	21,114
1881	466,830	19,758	1886	195,930	16,462
1882	358,783	28,958	1887	251,722	14,510
1883	259,108	21,351	1888	309,934	7,651
1884	357,208	21,741	1889	257,353	11,587

TRADE WITH ALL COUNTRIES.

Total trade.

The amount of imports and exports of each country, in proportion to the total, during the eleven years which closed with 1889, is shown in the following tables. As already pointed out, the border colonies of Victoria and South Australia appear more advantageously than their importance warrants, owing to the large amount of trade merely passing through their territory for shipment to Great Britain, while the trade to the last named country, as shown on the table, is less than the truth, by the amount thus over-credited to Victoria and South Australia.

Imports—Percentage of the Imports from each of the Principal Countries.

Year.	British Possessions.							Foreign States.						
	Great Britain.	Victoria.	Queensland.	South Australia	New Zealand.	Other Colonies or Possessions.	Total British Possessions.	United States.	France.	Germany	Belgium.	China.	Other Foreign States.	Total Foreign States.
1879	46·53	15·40	15·21	4·97	1·98	5·77	89·86	3·77	0·36	0·22	......	2·42	3·37	10·14
1880	46·11	15·42	15·70	4·87	3·25	6·50	91·85	2·73	0·27	0·33	......	2·52	2·29	8·15
1881	51·08	13·73	12·35	3·94	2·68	6·04	89·82	3·34	0·36	0·71	0·12	2·66	2·99	10·18
1882	51·96	12·90	10·01	4·74	3·43	6·69	89·73	4·14	0·46	0·85	0·18	1·67	2·97	10·27
1883	49·36	13·99	13·71	3·90	2·71	6·36	90·03	4·29	0·98	0·99	0·14	1·20	2·37	9·97
1884	49·32	13·23	12·88	4·33	3·81	6·85	90·42	4·12	0·95	1·46	0·32	1·54	1·19	9·58
1885	50·07	13·96	12·27	3·75	3·79	5·90	89·74	4·25	1·45	1·57	0·82	1·28	0·89	10·26
1886	49·01	13·09	13·65	3·88	4·45	5·78	89·86	4·78	1·01	1·70	0·81	0·92	0·92	10·14
1887	41·72	15·10	18·35	6·57	3·95	5·93	91·62	3·62	0·83	1·55	0·19	1·31	0·88	8·38
1888	43·39	11·64	16·38	8·61	3·76	5·88	89·66	4·56	0·73	2·26	0·31	1·46	1·02	10·34
1889	38·21	10·58	20·41	8·13	5·23	5·78	88·34	4·79	0·78	2·33	0·39	1·12	2·25	11·66

Exports—Percentage of Exports to each of the Principal Countries.

Year.		British Possessions.						
		Great Britain.	Victoria.	Queensland.	South Australia	New Zealand.	Other Colonies or Possessions.	Total British Possessions.
1879	...	39·20	31·81	11·00	5·88	4·86	2·96	95·71
1880	...	47·98	29·19	8·70	5·30	3·35	2·48	97·00
1881	...	46·36	24·85	12·02	2·80	2·62	3·40	92·05
1882	...	41·35	21·40	17·04	6·15	2·57	4·67	93·18
1883	..	48·78	20·59	11·42	4·80	1·76	4·80	92·15
1884	...	41·36	22·45	12·85	8·08	2·73	5·22	92·69
1885	..	43·54	20·60	12·98	4·86	2·20	4·15	88·33
1886	...	38·35	23·52	11·64	10·09	2·72	4·34	90·66
1887	...	37·61	25·77	10·94	9·40	1·62	3·66	89·00
1888	...	40·52	26·08	9·43	7·94	1·88	2·62	88·47
1889	...	38·48	23·12	7·50	12·87	1·79	3·30	87·06

Year.		Foreign States.						
		United States.	France.	Germany	Belgium.	China.	Other Foreign States.	Total Foreign States.
1879	...	1·60	0·17	0·03	...	0·24	2·25	4·29
1880	...	1·10	...	...	...	0·09	1·81	3·00
1881	...	5·31	0·01	0·07	0·03	0·12	2·41	7·95
1882	...	3·83	0·05	0·06	0·12	0·16	2·60	6·82
1883	...	4·30	0·12	0·04	0·80	0·10	2·49	7·85
1884	...	1·98	1·00	0·23	1·75	0·12	2·23	7·31
1885	...	5·88	0·85	0·17	2·40	0·12	2·25	11·67
1886	...	3·32	0·95	0·35	2·71	0·08	1·93	9·34
1887	...	5·05	0·46	0·54	3·01	0·08	1·86	11·00
1888	..	4·99	0·58	0·61	3·46	0·04	1·85	11·53
1889	...	4·85	0·45	2·23	3·11	0·05	2·25	12·94

For Customs purposes imports are, as a general rule, set down their value in the Colony. Such, too, is the plan followed in gard to exports. Taking into consideration the circumstances of

Valuation of imports.

Imports set down at Sydney value.

the Colony, the system is a just one; for, assuming that goods imported have to be paid for in goods exported, the imports, if valued according to the ruling prices at the port of shipment, would be undervalued at the port of arrival by the amount of the freight and charges incurred. In order, therefore, to establish a fair comparison between the imports and exports, each must be taken at the value in the Colony. Under normal conditions the value of the trade inwards and outwards should be virtually equal. If the freight-earning vessels were owned in the Colony the excess would be on the side of the imports, but as comparatively little of the tonnage is owned in New South Wales the freight earned is small. On the contrary, a certain quantity of goods must be exported to pay for the carriage of the goods imported, and the amount of such represents the difference in the value of the goods purchased by the exports, as they leave the country where they are produced, and the value of the same goods landed in this Colony.

Imports exceed exports.

The imports of the Colony, taken over a series of years greatly exceed the exports. The causes of this excess are chiefly two—the flow of British money to the Colony for investment, and the proceeds of loans floated by the Government for the purpose of carrying out public works. Were these importations to cease, the exports of New South Wales would exceed the imports; for, not only would the Colony be required to send out the value of the goods imported, with their freight to its shores, but also the amount of interest payable on loans, the earnings of money sent here for investment, and the incomes derived by persons living abroad, from property held in the Colony.

TARIFF.

The tariff.

The tariff in force in New South Wales is more simple in character than that of any other important country, except Great Britain. At the close of 1886 it comprised specific duties on 175 articles, with an *ad valorem* duty of 5 per cent. on the remainder—certain articles, about 100 in number, comprising chiefly food, raw material, and agricultural appliances, alone excepted. Since then, however, the tariff has been greatly modified, and now stands as follows :—

Schedule of Customs and Excise Duties, for 1890.

Particulars of Receipt.		Rate of Duty.	
con and Hams		⅌ lb.,	2d.
r, ale, porter, pruce, or other eer, cider, and erry	In wood or jar	⅌ gallon,	6d.
	In bottle...	,,	9d.
	For six reputed quarts or twelve reputed pints	,,	9d.
	Excise	,,	3d.
uits, other than ship		⅌ lb.,	1d.
ter		,,	1d.
dles per lb., or reputed package of that weight, and so in proportion for any such reputed weight, and stearine ...		,,	1d.
ent		⅌ barrel,	2s.
ese		⅌ lb.,	2d.
ory, dandelion, d Taraxacum	Raw or kiln-dried	,,	3d.
	Roasted, ground, or mixed with any other article	,,	6d.
colate—plain or mixed with any other article, and chocolate creams		,,	4d.
rs		,,	6s.
rettes (including wrappers)		,,	6s.
rs and cigarettes (Excise)		,,	2s. 6d.
a flour and maizena		,,	1d.
oa	Raw, without allowance for husks or shells	,,	3d.
	Prepared paste, or mixed with any other article (See "Chocolate")	,,	4d.
ee	Raw	,,	3d.
	Roasted, ground, or mixed with any other article...	,,	6d.
fectionery (including cakes, comfits, liquorice, liquorice paste, lozenges of all kinds, cocoanut in sugar, sugar-candy, succades, and sweetmeats)		,,	2d.
ences, flavouring, and fruit, containing not more than 25 per cent. of proof spirit		⅌ gallon,	4s.
Containing more than 25 per. cent. of proof spirit		,,	14s.
h, dried, preserved, or salt		⅌ lb.,	1d.
its, dried and candied, exclusive of dates		,,	2d.
cose	Liquid and syrup	⅌ cwt.	3s. 4d.
	Solid	,,	5s.
n......	Galvanized, in bars, sheets, or corrugated	⅌ ton,	40s.
	Iron and steel wire	,,	20s.
	Galvanized, manufactures (except anchors)	,,	60s.
ns—per pound, or reputed package of that weight, and so in proportion for any such reputed weight		⅌ lb.,	1d.
lk, condensed or preserved		,,	1d.
phtha and gasoline		⅌ gallon,	6d.
Oils, except lack, cocoa-at, and sperm and palm.	Kerosene	,,	6d.
	All other	,,	6d.
	In bottle—		
	Reputed quarts	⅌ doz.,	1s. 6d.
	Reputed pints	,,	9d.
	Reputed half-pints and smaller sizes ...	,,	6d.
ium, and any preparation or solution thereof, not imported for use as a known medicine		⅌ lb.,	20s.
ints and Varnish	Paints and colours ground in oil	⅌ cwt.,	3s.
	Varnish and lithographic varnishes	⅌ gallon,	2s.

Schedule of Customs and Excise Duties, for 1890—*continu*

Particulars of Receipt.		Rate of D
Powder and shot	Sporting powder	℔ lb.,
	Blasting Powder	,,
	Dynamite and Lithofracteur	,,
	Shot	℔ cwt.,
Preserves, * jellies, and fruits boiled in pulp or partially preserved other than by sulphurous acid		℔ lb.,
Rice		℔ ton,
Sago, tapioca, and semolina		℔ lb.,
Salt		℔ ton,
Sarsaparilla and Bitters.	If containing not more than 25 per cent. of proof spirit	℔ gallon,
	If containing more than 25 per cent. of proof spirit	,,
Spirits	On all kinds of spirits imported into the Colony, the strength of which can be ascertained by Sykes' Hydrometer. (No allowance beyond 16·5 shall be made for the under proof of any spirits of a less hydrometer strength than 16·5 under proof)	
	Brandy	℔ proof gall.
	Geneva	,,
	Gin	,,
	Liqueurs	,,
	Rum	,,
	Whisky	,,
	Manufactured in the Colony (Excise)	,,
	On all spirits and spirituous compounds imported into the Colony, the strength of which cannot be ascertained by Sykes' Hydrometer	℔ liq. gallon
	Case Spirits—Reputed contents of two, three, or four gallons shall be charged— Two gallons and under as two gallons. Over two gallons and not exceeding three as three gallons. Over three gallons and not exceeding four as four gallons.	
	Methylated	℔ gallon,
	Perfumed spirits, perfumed water, Florida water, and bay rum	℔ liquid gall.
Sugar	Refined	℔ cwt., 6
	,, ex-refinery	,, 6
	Raw	,,
	,, ex-refinery	,,
	Molasses and treacle	,, 3
	,, ex-refinery	,, 3
Tea		℔ lb.,
Timber (other than laths, building shingles, dyewoods, palings, undressed sandalwood, staves, and casks in shooks).	Dressed	℔ 100 ft.,
	Rough and undressed	,, 1
	Doors, sashes, and shutters	Each,

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* Jellies included under jams.

Schedule of Customs and Excise Duties, for 1890—*continued.*

	Particulars of Receipt.	Rate of Duty.	
Tobacco	Delivered from ship's side, or from a Customs bond, for home consumption—Manufactured, unmanufactured, and snuff	℔ lb.,	3s.
	Unmanufactured, entered to be manufactured in the Colony. At the time of removal from a Customs bond or from an importing ship to any licensed tobacco manufactory for manufacturing purposes only into tobacco, cigars, or cigarettes	,,	1s.
	Sheepwash	,,	3d.
	Excise	,,	1s. 3d.
Wines...	Sparkling—For six reputed quarts or twelve reputed pints	....	10s.
	Other kinds	℔ gallon,	5s.
	Other kinds, for six reputed quarts or twelve reputed pints	....	5s.

The chief articles from which Customs revenue is derived are fermented and spirituous liquors, tobacco, tea, and sugar. The revenue from spirits stood at 10s. per gallon until 1879, when it was raised to 12s., and in 1887 the duty was fixed at 14s. per gallon for ordinary, 15s. for perfumed, and 4s. for methylated spirits. The revenue derived from imported spirits during the past twelve years was:—

Customs Duties —Spirits.

Revenue from Imported Spirits.

Year.	Quantity on which duty was paid.	Duty.	Amount of duty collected.
	Gallons.		£
1878	1,089,191	10s.	544,596
1879	1,031,989	10s. and 12s.	521,273
1880	999,744	12s.	599,847
1881	1,103,101	12s.	661,861
1882	1,154,720	12s.	692,832
1883	1,194,650	12s.	716,790
1884	1,239,495	12s.	743,697
1885	1,204,790	12s.	722,873
1886	1,161,628	12s.	696,977
1887	1,121,101	12s., 14s., 15s.	759,608
1888	1,178,293	14s. and 15s.	806,938
1889	1,164,360	14s. and 15s.	804,426

Spirits subject to excise.

Colonial distilled spirits are subject to an excise equal to the duty on imported spirits. In 1884 the quantity subject to excise was 17,709 gallons, on which £10,625 was paid. In the following year the quantity fell to 14,242 gallons, and the amount of excise to £8,545. In 1886 the quantity fell still further, being only 9,733 gallons, and the excise £5,846; but in 1887, notwithstanding the increased duty levied, the quantity subject to excise increased to 15,762 gallons, and the amount of duty to £10,754, and a still further advance to 17,111 gallons was made in 1888, the duty amounting to £11,978. In 1889 the duty collected amounted to £16,691 on 23,844 gallons of spirit distilled.

Still wine is subject to an import duty of 5s. per gallon, and sparkling wine to 10s. per gallon. The import of the first named is less now than it was ten years ago, but owing to the increase in the duty in 1879 from 4s. to 5s. per gallon, the Customs revenue has been fairly maintained. The amount of still wine imported during 1889 was 149,200 gallons, on which £37,300 duty was paid. The quantity of sparkling wine on which duty amounting to £10,663 was collected was 21,326 gallons.

Australian wine checks import.

The growing favour in which Australian wine is held will probably have the effect of checking any considerable importations of foreign wine, and no large increase in the amount of duty, beyond that now received from such wine, can therefore be expected. The duty on sparkling wine was raised to 10s. per gallon in 1879, at which rate it now remains. The quantity imported shows a fair increase up to the end of 1885; but the recent general depression having probably limited the amount of money available for luxuries of this kind, the duty paid has of late years somewhat fallen.

Beer imported.

The import of ale and beer was larger during 1889 than in any previous year, reaching 2,806,802 gallons, of which 1,141,838 gallons were in wood, and 1,664,964 in bottle—the duty on the former being 6d. per gallon, and on the latter 9d. The total revenue derived from the import duty on beer during 1889 was £80,031.

Amongst other alterations in the tariff was the imposition of an excise duty on beer made in the Colony. The duty is at the rate of 3d. per gallon, and was collected for the second half-year of 1887, and amounted to £63,565, the quantity on which duty was paid being 5,085,217 gallons; in 1889 duty amounting to £118,940 was collected on 9,515,200 gallons. As a set-off against the duty thus imposed, those levied on hops and malt have been removed.

Tobacco duty.

The duties levied on tobacco imported into the Colony during 1886 were, on the manufactured article, 3s. per lb.; on tobacco for manufacturing purposes, 1s. per lb.; on the leaf, 3s.; and on cigars and cigarettes, 6s. The excise on tobacco made in the Colony was 1s. per lb., and on cigars and cigarettes, 2s. 6d. In practice, however, the excise on cigars manufactured in the Colony is not enforced. These cigars are made chiefly from imported leaf, on which a duty of 3s. per lb. has already been levied. The excise duty on manufactured tobacco was, however, increased during 1887, and now stands at 1s. 3d. The total amount of duty collected on tobacco and cigars during 1889 was £231,008.

Excise on tobacco.

Excise duties were first levied on tobacco manufactured in the Colony in 1884, and the amount collected since then has been :—

1884	£68,000	1887	£127,545
1885	106,658	1888	128,899
1886	102,212	1889	123,212

The revenue derived from cigarettes has been trifling, reaching £1,000 only in the last three years :—

1884	£490	1887	£1,284
1885	863	1888	1,038
1886	668	1889	1,150

During the last few years since the duty was increased the revenue derived from the imported leaf has steadily declined, its place being supplied by leaf grown in the Colony. To meet this falling off, the excise duty levied on colonial-made tobacco entered for home consumption was increased, as already stated, to 1s. 3d. per lb. If the American leaf, which is subject to a duty of 1s. per lb., were used exclusively in the manufacture of tobacco in

Revenue collected by the Customs Department during the Ten Years, 1880–89.

Particulars of receipt.	1880.	1881.	1882.	1883.	1884.	1885.	1886.	1887.	1888.	1889.
	£	£	£	£	£	£	£	£	£	£
Wines and spirits	641,911	709,832	745,491	768,792	808,045	786,545	752,070	815,844	866,894	864,692
Ale and beer	31,567	34,579	41,574	46,972	53,209	61,202	69,097	132,778	193,556	198,971
Tobacco	97,396	126,827	128,657	128,894	207,037	267,804	267,882	310,268	336,913	355,370
Tea	74,042	86,212	87,829	75,719	100,053	98,915	105,979	106,815	100,617	108,954
Coffee and chicory	10,983	10,610	10,850	10,638	13,406	13,549	13,188	13,127	10,664	11,255
Sugar	60,055	50,949	49,234	54,175	153,894	144,448	125,869	134,913	121,947	166,157
Methylated spirits	1,102	1,341	1,673	1,776	1,980	2,116	2,407	3,281	4,124	4,388
Opium	10,940	13,068	12,961	14,135	20,413	23,075	22,148	21,683	22,052	24,258
Rice	10,300	15,069	15,224	13,855	17,193	15,835	17,533	18,478	19,081	17,480
Malt and hops	13,390	15,753	18,939	17,266	18,304	20,410	30,366	13,424	......	......
Dried fruits	37,027	57,857	51,522	50,597	62,017	54,400	50,919	56,347	58,554	55,523
Specific duties	176,162	244,345	280,015	266,579	336,119	380,673	429,157	351,300	394,166	350,334
Ad valorem	......	......	......	......	......	......	277,227	226,743	3	......
Pilotage	14,462	20,463	26,455	30,508	32,124	31,739	31,716	28,628	36,797	39,377
Harbour and light rates	8,197	10,330	13,553	14,599	16,249	16,389	15,610	14,676	19,416	19,540
Removal dues	2,022	2,698	4,034	4,377	4,319	4,290	4,703	4,297	5,465	6,457
Tonnage and wharfage rates	6,974	14,177	8,909	7,096	7,895	7,396	6,973	7,059	6,945	8,293
Tax on Chinese	......	960	8,520	12,200	10,740	10,600	12,840	17,980	4,710	100
Bonded warehouse license fees	6,097	7,031	6,350	6,565	6,961	7,164	8,662	8,706	8,401	8,752

FARES AND FREIGHTS.

Looking at the extensive passenger traffic and shipping trade of New South Wales, it would naturally be expected that a liberal scale of fares and freights would be in force, and this will be found actually to exist. In many instances, indeed, the intercolonial rates have been extremely low, owing to the keen competition among the various steamship companies. The following figures will give an idea of the average passenger rates during 1889 :—

Colonial Fares.

New South Wales Port.—Bateman's Bay, £1 10s. first-class, £1 second-class ; Byron Bay, £2 10s. ; Clarence River, £2 and £1 ; Eden, £2 and £1 ; Gosford, 4s. ; Kiama, 7s. 6d. and 4s. ; Macleay River, £1 10s. and 15s. ; Manning River, £1 10s. and 15s. ; Nambucca River, £1 10s. and 15s. ; Newcastle, 6s. 6d. and 3s. ; Port Macquarie, £1 10s. and 15s. ; Richmond River, £2 5s. and £1 2s. 6d. ; Shoalhaven, 15s. and 10s. ; Ulladulla, £1 and 10s. ; Wollongong, 5s. and 2s. 6d.

Intercolonial Fares.

Australasian Ports.—Adelaide, £6 10s., £4 10s., and £2 10s. ; Albany (King George's Sound), £14, £10, and £7 10s. ; Auckland, £10 and £5 ; Bowen, £8 and £5 ; Brisbane, £3 and £1 10s. ; Bundaberg, £5 and £2 10s. ; Cooktown, £10 10s. and £7 ; Hobart, £2 and £1 ; Maryborough, £4 10s. and £2 5s. ; Melbourne, £2 5s. and £1 5s. ; Mourilyan Harbour, £10 5s. and £6 5s. ; Normanton, £16 and £10 ; Port Darwin, £18 and £9 ; Port Pirie, £4 ; Rockhampton, £6 and £3 10s. ; Thursday Island, £10 to £15, £5 to £9, and £6 ; Townsville, £8 and £5 ; Wellington, £10 and £5 10s.

Fares to Europe.

European Ports.—Bremen, £57 10s., £30, and £14 ; Brindisi, £55 to £65, and £30 to £35 ; Gibraltar, £65, £40, and £20 ; London, £55 to £70, £30 to £37, and £17 17s. ; Marseilles, £55 to £65, £30 to £40, and £20 ; Venice, £55 to £65, and £30 to £35.

Fares to Eastern Ports.

Eastern Ports.—Aden, £45, £30, and £15 ; Bombay, £40 and £25 ; Calcutta, £40 and £25 ; Colombo, £40 and £25 ; Hong Kong, £33 and £15 ; Japan, £75 and £40 ; Java, £26 and £15 ;

Penang, £50 and £30; Port Moresby, £22 10s. and £14; Shanghai, £75 to £45; Singapore, £30 to £55, and £15 to £30; Mauritius, £53, £35, and £17; Port Said, £55 to £63, £30 to £34, and £19 8s.; Reunion, £52, £35, and £17 12s.

Fares to Ports in the Pacific.

Pacific Ports.—San Francisco, £30 and £16; Honolulu, £40 and £20; Fiji, £12 10s. and £7; Noumea, £7 to £10, £4 to £7, and £3 12s.

Fares by Sailing Vessels.

Fares by Sailing Vessels.—Java Ports, £18; Bombay and Calcutta, £20; Callao, £25; Cape of Good Hope, £20; Honolulu, £15; London, £35 to £40; Manilla, £20; Mauritius, £20; San Francisco, £15; Shanghai, £20; Singapore, £18; Valparaiso, £25; Yokohama, £20.

Freights on Wool.

The freights paid for the carriage of wool to London determine, within certain limits, the freight of most other produce. The present average cost of carriage of greasy wool to London is 7/16d. per lb.; in 1834 the average was somewhat over 3d. Information regarding freights is not available for early years, but since 1857, as the following figures show, the freights on wool have been very low, and remarkably steady. The values are in every case for sailing ships, as the practice of shipping wool by steamers was by no means general until very recent years:—

Freights on Pressed Greasy Wool per lb.

Year.	Freight.	Year.	Freight.	Year.	Freight.
1857	⅝d.	1868	9/16d.	1879	½d.
1858	⅜d.	1869	½d.	1880	11/16d.
1859	⅜d.	1870	⅜d.	1881	⅝d.
1860	⅝d.	1871	⅝d.	1882	⅜d.
1861	⅝d.	1872	⅝d.	1883	½d.
1862	⅝d.	1873	⅝d.	1884	⅜d.
1863	⅝d.	1874	⅝d.	1885	⅜d.
1864	⅝d.	1875	⅜d.	1886	⅜d.
1865	½d.	1876	½d.	1887	⅜d.
1866	⅝d.	1877	⅝d.	1888	7/16d.
1867	¾d.	1878	7/16d.	1889	7/16d.

General Freights.

The following table of freights calls for no particular comment, as prices have remained fairly uniform for several years, except when slightly altered by temporary causes:—

Year.	Vessel.	Wool (Greasy).	Tallow.	Copra.	Leather.	Hides.	Preserved Meats.	Measurement Goods.
		per lb.	per ton (20 cwt.)	per ton (20 cwt.)	per ton (20 cwt).	per ton (20 cwt.)	per 40 c. feet.	per 40 c. feet.
1884	Sailing	From $\frac{5}{16}$d. to $\frac{1}{2}$d. Average, $\frac{7}{16}$d.	From 32/6 to 40/- Average, 35/6	From 40/- to 50/- Average, 45/-	From 30/- to 45/- Average, 37/-	From 15/- to 20/- Average, 17/6	From 25/- to 30/- Average, 27/6	....
	Steam	From $\frac{3}{8}$d. to $\frac{5}{8}$d. Average, $\frac{9}{16}$d.	From 40/- to 45/- Average, 42/6	....	From 40/- to 60/- Average, 50/-	....	From 25/- to 40/- Average, 33/6	From 25/- to 40/- Average, 32/6
1885	Sailing	From $\frac{1}{4}$d. to $\frac{5}{8}$d. Average, $\frac{7}{16}$d.	From 25/- to 40/- Average, 31/-	From 35/- to 40/- Average, 37/6	40/-	From 15/- to 20/- Average, 17/6	25/-	25/-
	Steam	From $\frac{3}{8}$d. to $\frac{1}{2}$d. Average, $\frac{7}{16}$d.	40/-	....	From 40/- to 45/- Average, 42/6	....	35/-	35/-
1886	Sailing	From $\frac{5}{16}$d. to $\frac{5}{8}$d. Average, $\frac{1}{2}$d.	From 20/- to 25/- Average, 23/-	From 25/- to 30/- Average, 28/-	From 30/- to 35/- Average, 33/-	15/-	25/-	25/-
	Steam	From $\frac{3}{8}$d. to $\frac{5}{8}$d. Average, $\frac{1}{2}$d.	30/-	....	From 30/- to 70/- Average, 50/-	17/6	From 30/- to 70/- Average, 44/-	From 30/- to 70/- Average, 44/-
1887	Sailing	From $\frac{5}{16}$d. to $\frac{5}{8}$d. Average, $\frac{1}{2}$d.	From 22/6 to 30/- Average, 26/-	From 25/- to 35/- Average, 30/6	From 30/- to 35/- Average, 33/-	From 15/- to 20/- Average, 16/6	25/-	25/-
	Steam	From $\frac{3}{8}$d. to $\frac{5}{8}$d. Average, $\frac{1}{2}$d.	From 30/- to 45/- Average, 36/6	....	From 40/- to 50/- Average, 45/-	....	....	From 25/- to 45/- Average, 35/-
1888	Sailing	From $\frac{5}{16}$ to $\frac{7}{16}$d. Average, $\frac{3}{8}$d.	From 25/- to 45/- Average, 37/-	From 47/6 to 50/- Average, 49/-	From 30/- to 45/- Average, 36/-	20/-	From 25/- to 30/- Average, 26/6	From 25/- to 30/- Average, 26/-
	Steam	From $\frac{1}{2}$d. to $\frac{3}{4}$d. Average, $\frac{5}{8}$d.	From 30/- to 52/6 Average, 42/6	....	From 35/- to 50/- Average, 42/6	....	30/-	60/-
1889	Sailing	From $\frac{5}{16}$ to $\frac{7}{16}$d. Average, $\frac{3}{8}$d.	From 25/- to 45/- Average, 33/6	From 32/6 to 50/- Average, 36/-	From 27/6 to 45/- Average, 36/6	From 15/- to 20/- Average, 16/-	22/6	From 20/- to 25/- Average, 22/6
	Steam	From $\frac{1}{2}$d. to $\frac{3}{4}$d. Average, $\frac{5}{8}$d.	From 25/- to 50/- Average, 37/6	50/-	From 40/- to 60/- Average, 50/-	....	....	....

PART X.

Settlement.

Various system of land alienation.

THE systems adopted for the settlement of an industrial population on the lands of New South Wales have been many, and have differed widely according to the various stages of the Colony's progress and development. In the first period of settlement land was alienated by grants, orders, and dedications, the power of disposing of the Crown lands resting solely with the Governor. In this way grants, frequently of extensive areas, were made in favour of naval and military officers and men, and free immigrants. Regulations for the sale of lands and town allotments were promulgated on the 1st of August, 1831, in which the principle of sale by auction was introduced, the minimum price of country lands being then fixed at 5s. per acre. This minimum was raised to 12s. per acre in the year 1839, and two years afterwards it was increased to 20s. in the district of Port Phillip, the minimum price of 12s. per acre being resumed for the whole Colony in the following year. It was again increased in 1843 to 20s. per acre, with liberty to select at the upset price country portions offered and not bid for, or when the deposit was forfeited. The principle of selection appears therefore for the first time at that date in the land legislation of New South Wales, but limited to portions of land already measured for sale at auction. This system lasted until the abrogation of the Order in Council, and the introduction of new legislation by the Parliament of New South Wales. The following data show the progress of land alienations at various epochs up to the date upon which the Act of 1861 became law:—

	acres.
Area alienated under Surveyor-General Oxley previous to 1st January, 1828	1,617,542
Total area of land alienated as per return and Government map, 1837	4,418,758
Total area of land alienated in all forms previous to 1861	7,338,539

The conditions of colonization greatly altered under the powerful attraction of the gold-fields, and after the first excitment of the rush for gold had died out the question of land settlement had to be dealt with in an entirely new spirit, to meet the wants of a class of immigrants of a different type to those contemplated by former enactments, the result being the passing of the Crown Lands Act of 1861, under the leadership of Sir John Robertson. Before this Act became law the conditions of settlement rendered it difficult for men of small means to establish themselves with fair chances of success. The new measure aimed at facilitating the settlement of an industrial agricultural population, side by side with the pastoral tenants, and, with this view the Act introduced a principle entirely new to the land legislation of the Colony, namely, that of free selection, in limited areas, *before survey*. To this privilege was attached the condition of *bonâ fide* residence, and the land was to be sold at a fixed price, payable by instalments, or partly remaining at interest. The principle of unconditional sales was, however, maintained, and during the twenty-three years the Act of 1861 was in operation there were sold 23,470,140 acres conditionally, and 15,572,001 acres by auction, improvement purchase, or otherwise without conditions; the total area alienated being 39,042,141 acres. In a very large number of cases the land selected, or purchased, reverted to the State, so that the absolute area sold, or in process of sale, when the Act of 1884 came into force, amounted to only 32,819,023 acres, besides 7,338,539 acres alienated previously to 1861.

Crown Lands Act of 1861.

The occupation for pastoral purposes of the waste lands of New South Wales was at first allowed under a system of yearly licenses. Under the old squatting regulations any person was at liberty to apply for such a license to occupy runs the extent of which was only limited by the boundaries of the surrounding stations, the licensing fee being fixed at £10 per year for a section of 25 square miles, or 16,000 acres in extent, £2 10s. per annum being charged for every five additional square miles.

Pastoral Occupation

Occupation Act of 1861.

The Imperial Act of the 9th March, 1847, which rendered it lawful for the Queen, by any Order in Council, to make and establish such regulations as should seem meet for the sale and occupation of the waste lands, was immediately followed by an order introducing an entirely different system in the legislation for the pastoral occupation of lands in New South Wales. Hitherto the tenure had been a yearly one, and the fee was paid on the extent of land occupied by the squatter. For this system was substituted a fixity of tenure of the leases, and the license was calculated upon the stock-carrying capacity of the runs. Under the regulations promulgated in 1847 the country was divided into three parts—the settled, the intermediate, and the unsettled districts. For the latter division the term of the pastoral leases was fixed at a period of fourteen years; in the intermediate division this term was reduced to eight years, and in the settled districts the yearly tenure was retained. The licensing fee was charged at the rate of £10 for 4,000 sheep, or a proportional number of cattle—which was the minimum at which the stock carrying capabilities of a run could be assessed—and £2 10s. was charged for every additional 1,000 sheep or the proportion of cattle which the run was estimated to carry. In the settled districts lands were let for pastoral purposes only, in sections of not less than 1 square mile in area, the annual rental for each section being fixed at 10s. The holders of alienated lands were permitted to depasture their stock upon Crown lands adjoining their holdings free of charge, this permission, however, constituting only a commonage right. The Occupation Act of 1861, which abolished the Orders in Council, inaugurated a new system, which limited the tenure of pastoral leases to five years in the unsettled, and intermediate or second-class settled districts, leaving the whole of the pastoral leases open to the operations of the free selectors. The evils resulting from this system led Parliament to adopt in 1884 the measure at present in force, the provisions of which, with regard to pastoral occupation, are described further on.

CROWN LANDS ACTS OF 1884 AND 1889.

Free selection before survey.

The Act of 1861 was, after many amendments, finally superseded by that of 1884, with the supplementary enactment of 1889. Though differing widely from the former Act in many important particulars these measures maintain the principle of free selection before survey, but with one essential difference. Under the original Act the whole area of the Crown lands of the Colony was thrown open to free selection, and the lands held under pastoral leases were not exempted from the operation of the law. Thus were created considerable difficulties between the two principal classes of settlers—the squatters and the selectors. While maintaining the principle of selection before survey, the aim of the Acts of 1884 and 1889 was to give fixity of tenure to the pastoral lessees and obtain a larger rental from the public lands, at the same time restricting the area sold unconditionally. The Act of 1884 became law on the 1st January, 1885, and that of 1889 came into operation on the 1st of December of that year.

Territorial divisions

Under these measures the whole Colony is subdivided into three natural divisions, each of which is further subdivided into various land districts, one or more such districts forming local divisions, the administration of which is entrusted to a Local Land Board, composed of a chairman and not more than two assessors. In each land district resides a land agent, whose duty is to receive all applications for land, in accordance with certain regulations having the force of law. The decisions of the Local Land Boards may be appealed against to the Land Court. The composition of the Land Court involved one of the principal innovations introduced in the land legislation of the Colony by the Act of 1889; by its constitution and powers it is intended to free the administration of the law from political

Land Court.

interference. This Court is composed of a President and two members appointed by the Executive, whose decisions in matters of administration have the force of judgments of the Supreme Court; but whenever questions of law become involved, a case may be submitted to the Supreme Court, either upon the written request of the parties interested, or by the Land Court acting of its own accord. The judgments given on this appeal are final and conclusive. The conditions of alienation and pastoral occupation of Crown lands differ in each of the three divisions above named.

EASTERN DIVISION.

Boundaries and area.

The eastern division has an area of 60,452,000 acres, and includes a broad belt of land comprised between the sea-coast and a line nearly parallel thereto. This line starts from a point midway between the small settlements of Bonshaw and Bengalla on the Dumaresq River, on the northern frontier, and terminates at Howlong on the river Murray, and thus embraces the coastal district of the Colony, as well as the northern and southern tablelands. In this division lie all the original centres of settlement, and the markets of the Colony are more readily accessible to it than to the other districts. In it, moreover, is to be found some of the best agricultural land of the Colony. For these reasons, the conditions for the purchase and occupation of the Crown lands are more restricted than is the case in the central and western divisions; nevertheless, every person above the age of 16 may, upon any part of the Crown lands not specially exempted from purchase, select an area from 40 to 640 acres in extent, together with a conditional lease of contiguous land, which cannot exceed thrice the area of the conditional purchase. The price demanded by the State is a uniform one of £1 per acre, 2s. per acre being deposited on making the application, and the rest paid by instalments of 1s. per acre per year, together with interest of 4 per cent. on the unpaid balance. The instalments begin at the end of the third year, though the whole of the balance may

Conditional purchases.

Condition of fencing and *bona fide* residence.

be paid in one sum at the selector's option, when the instalments fall due. The selector is required to reside for a term of five years, and, within two years from the date of occupation, to fence the boundaries of his conditionally purchased land with a substantial fence, and maintain the same in good order and condition. Upon application to the Land Board, however, the selector may be allowed to substitute other improvements of a permanent and substantial nature in lieu of fencing. On the completion of his term of continuous residence the selector is at liberty to conditionally purchase additional areas contiguous to his original purchase, in extent from 40 to 640 acres, and may, if he has also a conditional leasehold, purchase the whole of the area of the said leasehold, and, in the case of additional purchases, the conditions as to residence are not required, though that of fencing remains unaltered. Any person over 16 years of age may select, and married women, judicially separated from their husbands, are also allowed to select in their own right. Minors taking up lands adjoining the parents' selection may fulfil the conditions of residence under the parental roof.

Limit of tenure of conditional leasehold.

Conditional leaseholds.—The conditional leasehold, in conjunction with a selection, may be held for a period of fifteen years, at a yearly rental fixed by the Local Land Board, subject to the approval of the Minister, and under conditions of fencing within two years of the date of the confirmation of the application, the one fence, however, being allowed to enclose both the conditional purchase and the lease.

Leases converted into purchases.

Conditional leases may at any time during their currency be converted into additional conditional purchases, and the term of residence on both the original purchase and the lease together need not exceed a period of five years from date of application.

Non-residential conditional purchases.—Land may be selected free from conditions as to residence, but the terms under which land may be thus taken up are more stringent than when the purchase is a residential one. In the first place, the area is

Limit of area.

limited to a maximum of 320 acres, and no additional conditional purchase may be made except for such additional areas, which, together with that of the original purchase, do not exceed this maximum, and no conditional lease may be granted. The property must be fenced in within twelve months after survey, the value of fencing not being included in that of the permanent improvements, which must be made within five years after survey, to the extent of £1 per acre. Moreover, the price demanded by the State has been fixed at £2 per acre, the deposits and subsequent instalments being likewise double the sum required to be paid in the case of ordinary conditional purchases. Lastly, no person under 21 years of age may select under this clause, and no person having already taken up a non-residential selection, may be permitted to make any other conditional purchase whatsoever under this Act.

Conditions of fencing and improvements.

Price per acre.

Special areas may also be reserved from the operations of the ordinary conditional purchase clauses of the Act, and may be thrown open to selection under different terms as to payment, and with or without the condition of residence. But, in such special areas, the price of the land cannot be less than £1 10s. per acre, if the selector elect to fulfil the condition of residence, non-resident purchasers being charged double the price demanded from the former, and the maximum area of one such purchase is fixed at 320 acres.

Price and limit of area.

CENTRAL DIVISION.

Boundaries and area.

The central division of the Colony embraces an area of 55,460,000 acres, extending from north to south between the western limit of the eastern division and a line starting from a point on the Macintyre River, where it is crossed by the 149° of east longitude, and following this river and the Darling to the junction of Mara Creek; thence along that creek to the Bogan River, and across to the river Lachlan, between the townships of Euabalong and Condobolin, along the Lachlan to Balranald, and thence to the junction of the Edward River with the Murray, on the frontier of Victoria.

The central division thus embraces the upper basin of the Darling River in the northern part of the Colony, and portions of those of the Lachlan, the Murrumbidgee, and the other affluents of the Murray in the south. This territory has, hitherto, been mainly given over to pastoral occupation; but there is every warrant for supposing that agricultural and pastoral pursuits could successfully be carried on, side by side, over a considerable part of it.

Conditional purchases and leases.—In this division land may be conditionally purchased under the same terms as to residence, fencing improvements, price, and mode of payment as required in the eastern division; but the limit of an individual selection has been fixed at 2,560 acres, with a corresponding increase of the conditional lease to three times that area. The acreage which may be purchased without residence, as well as the conditions in regard thereto, are the same for the central as for the eastern division.

Limit of area, and other conditions.

In *special areas* the maximum extent of a selection has been fixed at 640 acres in the central division.

WESTERN DIVISION.

The western division comprises the whole of the land situated between the western limit of the central division and the South Australian border. It embraces an area of 79,970,000 acres, watered entirely by the Darling River. This part of New South Wales is essentially devoted to pastoral pursuits. Water conservation, irrigation, and occupation, may in time counteract climatic conditions and irregular rainfall, and make agriculture possible over this large area, as its soil is adapted to the growth of any kind of crop. But legislation in regard to occupation and settlement of the district is based upon the assumption that for many years there will be little inducement for agricultural settlement. Therefore, conditional purchases, except in special areas, are not allowed. Pastoral settlement, in this division, is encouraged in the form of homestead leases.

Limits and area.

Pastoral leases.—Under the Act of 1884, the squatters, who had hitherto held runs under leases which did not exempt the land from the operation of the free selection system, were invited to surrender their leases to the Crown, and submit to the subdivision of the unalienated portion of their runs into two equal parts. The one part was returned to the Crown lessee, under an indefeasible lease, for a fixed term of years, according to the geographical division in which the run was situated, while the remaining portion was leased under annual occupation licenses, renewable from year to year, remaining open for selection under the homestead lease clause. The Crown Lands Act of 1889 did not interfere with these provisions, but the tenure of pastoral leases, in the western division only, was fixed at twenty-one years at a rental determined upon an assessment made for seven years and a reassessment made every seventh year of the lease's currency, the term of twenty-one years being susceptible of extension for a further period of seven years if the land has been improved in a satisfactory manner. In the central division the term of pastoral leases extends to ten years, and in the eastern division to five years only; in each case the rent is determined by assessment, but no minimum is fixed in any division. In the central division an extension of five years may be granted to the holder of a pastoral lease. Upon the expiration of a pastoral lease, the lands comprised therein may be re-let, or may be subdivided and let by auction, or tender, as a pastoral lease, or may be resumed by the Government, and all improvements on the land at the expiration of the lease become the property of the Crown, without compensation.

Pastoral tenure of land.

Expiration of pastoral lease.

Occupation licenses.—Besides the leases for a fixed period thus granted to run-holders of half the unalienated portions of their runs, licenses may be granted to occupy resumed areas or vacant lands. In this case the application for such occupation license must be made at the time of applying for the pastoral lease, and a deposit made at the rate of £2 per section of 640 acres, part of which sum may be refunded when the license fee is fixed by the Minister, after appraisement. These occupation licenses are

Deposit and term.

granted only for a term of one year, and do not exempt the land from the operations of other clauses of the Land Act.

Homestead leases.—In the western division, homestead leases with a currency of fifteen years may be granted within the resumed areas or vacant lands. The portion which may be taken up under this clause cannot be less than 2,560 acres, nor more than 10,240 acres. These leases are granted upon application at the Lands Office, and on payment of a deposit equal to 1d. per acre of the area applied for. The applicant must reside upon his lease for a period of at least six consecutive months during each of the first five years of his lease. During the first two years of occupation the lessee must enclose the whole of the lease, with a fence according to a prescribed design; but the Land Board may grant an exemption from fencing any natural or other boundary under certain circumstances, provided other substantial improvements are erected in lieu thereof. On the expiration of the term of fifteen years, above mentioned, an extension of seven years may be granted, if it appears to the Land Board that the carrying capacity of the land has been improved, or that the conditions imposed by the Act have been satisfactorily fulfilled and the land benefited. At the end of the final term the homestead lease may be again leased as such by auction or tender, but the out-going tenant is not entitled to compensation for improvements. Persons who obtain homestead leases are, however, required to pay for existing improvements on the land thus leased, at a valuation made under the direction of the Local Land Board. Holders of pastoral leases are not permitted to hold homestead leases, neither can any person hold, or cause to be held on his behalf, more than one such lease.

Condition of occupation and fencing.

Term of lease

Scrub leases.—Besides pastoral and homestead leases, other leases are granted under the Act for special purposes. On the recommendation of the Local Land Board the Minister may declare any Crown lands wholly or partly covered with scrub or noxious undergrowth, to be scrub land, and such may be leased for

Minister may proclaim scrub lands.

Limit of area and terms of tenure.

a term not exceeding twenty-one years, and in areas not exceeding 10,240 acres, and not less than 640 acres to any person, subject to rental fixed by assessment. Every holder of a scrub lease is required to commence destroying the scrub within three months after the commencement of the lease, and take all such steps for this object as the Local Land Board may from time to time direct.

Leasing of snow lands.

Lands covered with snow during part of the year may be leased in areas not less than 1,280 acres, and not exceeding 10,240 acres, for a term of seven years, with a right of extension for three years more, subject to an annual rental determined by the Local Board. Lands which, in consequence of their inferior character or isolated position, may not have been held under tenure, or have been abandoned, may be leased by auction or tender for a period not exceeding twenty years.

Leases of inferior lands.

Leases for the protection of artesian wells.

Upon application by the holder of a pastoral lease for permission to bore or search for water upon the land held under an occupation license, an area not exceeding 10,240 acres in one block on the resumed area may be temporarily exempted from sale or lease, and in the event of artesian water in sufficient quantity being discovered, the said area may be held under a fixed lease, the term of which may not exceed the currency of the pastoral lease.

Annual leases.

Annual leases are also granted for pastoral purposes in areas not exceeding 1,920 acres for any Crown lands, by auction or tender, at a minimum upset annual rental of £2 for every section of 640 acres.

Residential leases may also be granted for periods not exceeding fifteen years, of areas not exceeding 10 acres of Crown lands within gold and mineral fields to holders of miners' rights and licenses, for the purpose of *bonâ fide* residence, upon such terms as may be prescribed as to rent, erection of fences, and buildings.

In addition to the various forms of alienation and occupation of the Crown lands described above, land may be sold in the three divisions of the Colony under the following provisions:—

Sales by auction.

Auction sales.—Crown lands, not exceeding 200,000 acres in the aggregate for the whole Colony in any one year, may be sold by auction. The upset price for such land is notified by the Minister, and is fixed by law at not less than £8 per acre for town lands, £2 10s. for suburban lands, and £1 for other lands. A deposit equal to 25 per cent. of the purchase money is required, and the balance must be paid within three months after the sale.

Gold-field purchases.

Purchases on gold-fields.—On gold-fields any person in duly authorized occupation under the Mining Act may purchase the portion so occupied, without competition, in virtue of the improvements made on the land, at a price to be fixed by the Land Board, being not less than at the rate of £8 per acre for town lands, and £2 10s. for suburban or other lands, or £2 10s. for any area less than 1 acre; but the maximum which may be so purchased is one quarter of an acre for town lands, and 1 acre for other lands.

Special sales.

Special sales, without competition, in the case of rescission of water frontages, reclamation of land by proprietors of adjoining lands, and in other special cases, may also be made under conditions which are at the discretion of the Minister for Lands in the metropolitan district, and of the Local Land Boards in the other districts. The Act also provides for special leases on the shores of the sea, lakes, harbours or rivers, as well as for cutting and removing timber from Crown lands.

LAND REVENUE.

Revenue received since 1861.

Since the year 1862, when the Lands Alienation Act of 1861 came into force, there has been received into the National Treasury from the proceeds of lands alienated the following sums:—

Description of Land Alienated.	Amount received.
	£
Lands alienated before the 1st January, 1862 (approximate)	1,818,312
Lands sold in fee-simple, from 1st January, 1862, to 31st December, 1889	15,373,869
Deposits, interest, and balance of purchase money on lands sold conditionally from 1st January, 1862, to 31st December, 1889	14,246,429
Total amount paid into the National Treasury...	31,438,610

Amount due to the State.

At the close of 1889 there remained due to the State, on account of unpaid balances on land conditionally purchased, a sum of about £12,306,620; so that the total amount of sales from 1862 to the end of 1889 was £41,926,918 in all. During the same period the area of land disposed of by sales was 33,148,184 acres; the average rate per acre for lands of all kinds sold was, therefore, about £1 5s. The number of selections paid up in full and the amount received therefrom from the date of the coming into force of the first Crown Lands Act of 1861, to the 31st December, 1889, according to a return specially prepared by the Treasury authorities, were 17,515 selections, and £1,863,285 respectively; the number of selections and amount of outstanding balances, as distributed under the principal Land Acts, were as follow, at the latter date:—

Act.	Selections.	Amount. £	s.	d.
Under 25 Vic. No. 1, 1861, at 5% ...	33,526	2,084,752	7	2
Under 39 Vic. No. 13, 1875, at 5% ...	60,494	4,496,945	19	4
Under 48 Vic. No. 18, 1884, at 4% ..	45,099	5,724,921	12	8
Total	139,119	12,306,619	19	2

Number of selections.

From the returns published by the Department of Lands it would appear that from 1862 to the close of 1889 the total number of individual selections applied for was 217,499, covering a total area of 27,870,641 acres. Of these, 17,515, or 8 per cent., have become absolute freeholds, 139,119, or 64 per cent., are still in process of alienation, and 60,865, or 28 per cent., have been either declared void or forfeited under the provisions of the various Land Acts. It is not possible to ascertain exactly the proportion which the actual number of distinct rural holdings bears to that of individual selections, but it is evident that the numerous portions taken up as additional conditional purchases greatly reduce the number of holdings, whilst the gradual absorption of a very large number of selections by the pastoral tenants of the Crown, principally in the central and western divisions of New South Wales, have greatly contributed towards the present state of the subdivision of the alienated lands.

Alienated.

The total area of land sold in fee-simple, and for which deeds were issued to the close of 1889, was 22,912,664 acres; the area granted for religious, scholastic, and other public purposes was 3,113,393 acres; and the area in process of alienation under the system of deferred payment was 17,574,059 acres; making a total of 43,600,116 acres; there remained then a balance unalienated of 152,282,034 acres. This last figure includes an area of 6,822,485 acres under conditional lease, which is virtually a form of sale. The area leased to pastoral tenants and others comprised 137,496,040 acres, and that leased to miners under the Mining Act, 202,899 acres, subdivided as follows:—

Area unalienated.

Area held under	Pastoral Leases at the close of 1889 ...	66,932,480
,,	Occupation Licenses at the close of 1889	55,619,840
,,	Conditional Leases ,,	6,822,485
,,	Homestead Leases ,,	4,545,920
,,	Annual Leases ,,	3,567,475
,,	all other leases under the Land Act ...	7,840
,,	Leases under the Mining Act	202,899
	Total....................................... ...	137,698,939

so that out of the total available area of the colony, viz., 195,882,150 acres, there were either leased or sold 181,299,055 acres, leaving a balance of only 14,583,095 acres, representing chiefly the land reserved alike from sale and lease, as well as the area of country not suitable for settlement.

RURAL SETTLEMENT—HOLDINGS.

Holdings 1 acre and upwards.

Excluding land held by the tenants of the Crown, there were on the 31st March, 1890, 47,620 holdings of 1 acre and upwards in extent. Fourteen years previously these holdings numbered 39,639. The increase amounted to 20·1 per cent., while the area comprised in the holdings advanced from 18,210,796 to 41,042,629 acres, or 125·4 per cent. There has been a very marked tendency to increase the area of individual holdings during the

Increase in area of holdings.

past ten years, and this tendency is visible during the whole period over which the records extend, as may be seen from the accompanying table. In 1887 and 1888 the average area declined considerably. This may be easily accounted for, as a result of the stoppage of the auction sales of Crown lands, which was one of the main features of the land policy inaugurated in 1861. The tendency to increase is again observable since 1889, probably owing to an augmentation in the number of large selections or consolidated holdings in the central district of the Colony, consequent upon the extension of the maximum areas of land which may be taken up by individual selectors under the provisions of the Crown Lands Acts at present in force. The number of holdings of from 700 to 3,000 acres each shows an increase of 414 since 1888 :—

Average Area of Holdings.

Year ended 31 March.	Average size of holding.	Year ended 31 March.	Average size of holding.
	Acres.		Acres.
1876	315	1884	817
1877	459	1885	813
1878	481	1886	862
1879	564	1887	817
1880	569	1888	798
1881	691	1889	853
1882	703	1890	862
1883	772		

Facilities afforded by Act of 1861.

The increase shown between the first and last years of the above series amounts to 547 acres, so that the average extent of holdings is now 173·6 per cent. larger than in 1876. This result is, in a certain measure, due to the facilities afforded to pastoral occupiers by the improvement clause of the Crown Lands Act of 1861, and its subsequent amendments, which permitted them to purchase at the rate of £1, and subsequently at £1 5s., per acre, in sections from 40 acres to 640 acres, areas which they had improved to the extent of £1 per acre. But it is attributable also, and in a large degree, to the vast areas of Crown lands offered for sale at public auction, which almost invariably fell into the hands of the Crown tenants on whose runs they were situated. Up to the close of 1882, when a check was first given to this form of alienation, there had been disposed of by public auction 10,995,120 acres, whilst the area acquired under the improvement clauses amounted to 2,305,938 acres. At the date above mentioned, a total area of 35,478,346 acres had been alienated throughout New South Wales, of which 29,113,246 acres were sold subsequently to the Act of 1861, and of this area 13,301,058 acres, or a little more than 45 per cent., were parted with under the auction sales and improvements clauses, in the proportion of nearly five acres sold at auction to one bought under the improved purchase clauses.

Total alienation

Comparative size of holdings in the various electorates

The next table shows the average area of holdings in various electorates, and it will be seen that in the Riverina district the average sizes of holdings reach the largest figures, being 6,973 acres in the electorate of Sturt, 6,827 acres in that of the Murray, 6,220 acres in the Balranald, 3,141 acres in the Murrumbidgee, 2,328 in the electorate of Wentworth, and 2,151 in the Hume electorate, or a mean of 4,607 acres for the whole district. The electorates of Bourke, the Gwydir, and the Namoi closely follow, with the respective averages of 4,272 acres, 2,176 acres, and 2,052 acres.

Small area of holdings in early settled districts.

In the semi-pastoral and semi-agricultural districts of the central division of the Colony, with the exception of the electorate of Gunnedah, in which the average size of holdings attains 3,700 acres, this mean is much smaller, the Bogan, Grenfell, Forbes, Monaro, and Queanbeyan averaging 1,594, 1,403, 1,142, 1,037, and 971 acres respectively. In the eastern division, and in that part of the Colony which was first settled, comprising the valleys of the Hawkesbury, Nepean, Hunter, and Shoalhaven Rivers, and the country around Goulburn and Bathurst, the area of holdings becomes further reduced, and, immediately around the centres of population, the averages are still smaller. Thus in the electorates of Argyle, East and West Macquarie, Orange, Patrick's

Plains, and the Richmond and Eden, the averages lie between 716 and 330 acres, while, in those of Kiama, Hawkesbury, Central Cumberland, and Goulburn, they fall to between 121 and 38 acres. The Upper Hunter is an exception, as the average size of holdings there reaches the high mean of 1,303 acres. The high average of the electorates of Tamworth and Gloucester is owing to the fact that the freehold estate of the Australian Agricultural Company, originally of 1,000,000 acres, is mainly comprised within the limits of these electorates :—

Average area of holdings.

Average area of Holdings in the various Electoral Districts in the year 1889.

Electoral Districts.	Area.	Electoral Districts.	Area.
	Acres.		Acres.
Albury	446	Macleay	169
Argyle	661	Macquarie East	367
Balranald	6,220	,, West	408
Bogan	1,594	Maitland East	180
Boorowa	883	Molong	662
Bourke	4,272	Monaro	1,037
Braidwood	469	Morpeth	102
Camden	268	Mudgee	366
Carcoar	640	The Murray	6,827
Clarence	130	The Murrumbidgee	3,141
Central Cumberland	56	The Namoi	2,052
Durham	412	The Nepean	185
Eden	486	Newcastle	224
Forbes	1,142	New England	891
Glen Innes	718	Northumberland	244
Gloucester	1,311	Orange	455
Goulburn	38	Patrick's Plains	716
Grafton	230	Queanbeyan	971
Grenfell	1,403	The Richmond	330
Gundagai	1,195	Shoalhaven	236
Gunnedah	3,700	Sturt	6,973
Gwydir	2,176	Tamworth	1,114
Hartley	342	Tenterfield	422
Hastings and Manning	213	Tumut	578
Hawkesbury	118	Wellington	640
Hume	2,151	Wentworth	2,328
Hunter	209	Wilcannia	665
,, Upper	1,303	Wollombi	193
Illawarra	121	Yass Plains	788
Inverell	640	Young	893
Kiama	121	Metropolitan	24

Comparative increase of holdings.

Comparing the number of existing holdings of various sizes with those of the year 1879, when the particulars were first recorded, it will be found that those under 15 acres have increased 46·56 per cent.; those from 15 to 200 acres have scarcely advanced. Between 200 and 400 acres the number of holdings shows a very small increase; those from 400 to 1,000 acres increased 37·97 per cent.; from 1,000 to 2,000 acres the increase was 80·77 per cent.; from 2,000 to 10,000 acres it was 92·55 per cent.; while in the largest class of holdings, from 10,000 acres upwards, the increase in number has been over 101 per cent. during the ten years. The subjoined table shows the number of holdings in various classes in each year of the period named :—

Holdings of Various Sizes.

Acreage.	1879.	1880.	1881.	1882.	1883.	1884.	1885.	1886.	1887.	1888.	1889.
Under 15 acres	4,974	5,550	5,186	5,124	5,154	5,400	5,877	6,512	7,038	6,880	7,290
15 to 200	21,302	20,645	20,361	20,007	20,161	20,998	21,167	21,288	21,651	21,503	22,048
200 to 400	6,190	5,854	5,753	5,760	5,969	6,363	6,285	6,382	6,481	6,612	6,774
400 to 1,000 ..	4,964	4,833	4,959	5,559	6,031	6,497	6,617	6,792	6,778	6,750	6,849
1,000 to 2,000..	1,212	1,467	1,470	1,550	1,667	1,886	1,811	1,948	2,010	2,080	2,191
2,000 to 10,000	940	1,229	1,176	1,297	1,350	1,413	1,406	1,458	1,618	1,774	1,810
10,000 and upwards...	327	414	449	463	461	513	563	552	566	580	658
Total	39,918	39,992	39,354	39,760	40,793	43,079	43,726	44,932	46,142	46,197	47,620

Holdings in vicinity of towns

The holdings under 15 acres in extent are, generally speaking, in the vicinity of towns, and consist mainly of gardens or orchards, and the increase of 46 per cent. is what would naturally be expected from the increased demand for their produce by a large population. The least satisfactory feature in the table is the fact that the number of holdings of moderate size remains much the same. In 1879 the total holdings having an area from 15 to 400 acres, amounted to 27,501, and in 1889 to only 28,822, showing a very slight advance. On the other hand, the larger holdings have increased to a remarkable degree, so that, at the close of year 1889 there were 11,508 holdings of 400 acres and upwar extent, compared with 7,443 in 1879, or an increase of 54·61 cent. in number in that short period. The area of holdings returned by occupiers, in each year since 1879, is given below

Year.	Under 200 acres.	From 200 to 1,000 acres.	From 1,000 to 10,000 acres.	Upwards of 10,000 acres.	Total of Hold
1879	1,890,293	4,950,938	5,692,576	10,187,796	22,72
1880	1,821,700	4,732,507	7,126,309	14,084,802	27,76
1881	1,816,674	4,811,634	6,990,311	14,073,589	27,69
1882	1,800,881	5,217,109	7,605,536	16,090,823	30,71
1883	1,811,483	5,586,273	8,131,955	17,823,287	33,35
1884	1,898,803	5,905,810	8,198,178	19,032,713	35,03
1885	1,903,360	6,018,570	8,340,872	21,346,794	37,60
1886	1,848,141	6,152,331	8,817,814	19,907,883	36,72
1887	1,984,940	6,181,374	9,480,412	19,170,765	36,81
1888	1,948,345	6,242,597	10,258,966	20,972,187	39,42
1889	2,105,555	6,352,325	10,417,449	22,167,300	41,04

Enclosed land.

The area of unenclosed land in 1876 amounted to nearly fifths of the whole area of the holdings; but, in the beginnin 1889 the proportion had fallen to considerably less than fifteenth, the area unenclosed at that period being only 2,677 acres out of a total of 41,042,629 acres occupied. This resu due partly to the operation of legislation, and partly to the sa of labour which fencing enables occupiers to effect.

Present state of settlement.

The foregoing remarks naturally lead to an examination of statistics which indicate the present state of the settlement of alienated land in New South Wales. For this purpose it wil necessary to extend this inquiry successively to the various p of the Colony, and to follow, as much as possible, the order in w they were opened up and settled.

Metropolitan Electorates excepted.

The electorates which are embraced within the area of metropolis and its suburbs are necessarily outside the limit this examination, as it is not intended to inquire intc the present condition of urban settlement; but it may be stated, nevertheless, that as regards the subdivision and the distribution of landed property in the city and suburbs of Sydney there is now little difference between this and other much older communities. In the electorates immediately surrounding the metropolis, where the first attempts to colonize were made, the collected statistics of settlement disclose a very different state of things.

Districts adjacent to the Metropolis.

The first division under consideration embraces the country extending to the foot of that range of mountains which was so great a barrier to the expansion of colonization in the early days of the settlement of New South Wales. It will be seen from the following tables that there are in all these districts three distinct classes of holders of alienated land:—(1) Those who occupy their own freehold; (2) persons occupying holdings which they rent from the freeholders; and (3) owners of land who rent from other private owners lands which they work in addition to their own freeholds:—

Districts adjacent to Metropolis.

Electorate.	Number of Holdings.				Area—Freehold.	Area—Leasehold.	Total.
	Freehold.	Private Leases.	Partly Freeholds and Leaseholds.	Total.			
	No.	No.	No.	No.	acres.	acres.	acres.
Central Cumberland.	1,629	238	59	1,926	67,440	41,305	108,745
Camden	1,010	552	178	1,740	318,556	147,274	465,830
Hawkesbury	567	213	68	848	76,958	23,501	100,459
Nepean	486	180	52	718	68,361	64,572	132,933
Wollombi	614	157	80	851	131,455	32,557	164,012

Thus, in this part of New South Wales, an area of 971,979 acres is alienated in holdings over 1 acre in extent, representing 22·7 per cent. of the total area of these electorates, which is computed at 4,282,240 acres. Of these, 662,770 acres, or 68·2 per cent., are in the occupancy of the owners of the land, whilst 309,209 acres, or 31·8 per cent., are leased to tenant occupiers. There are 4,306 holders occupying their own freeholds, 1,340 tenants, and 437 persons who both own and rent portions of their holdings. It is in the electorate of the Nepean that the greater proportion of leased lands is to be found, as out of a total alienation of 132,933 acres, 64,572 acres, or 48·6 per cent., are leased.

In the electorates of Central Cumberland and Camden the proportion of land held by private tenants decreases respectively to 37·9 and 31·6 per cent. of the alienated area in each electorate, and the proportion was further reduced to 23·4 and 19·8 per cent. in those of the Hawkesbury and the Wollombi.

Hunter River District.

Advancing to the northward the Hunter River District is reached, where the rural alienated lands are at present held by the various classes of occupiers according to the statement given below :—

Hunter River District.

Electorate.	Number of Holdings.				Area—Freehold.	Area—Leasehold.	Total.
	Freehold.	Private Leases.	Partly Freeholds and Leaseholds.	Total.			
	No.	No.	No.	No.	acres.	acres.	acres.
Morpeth	128	292	16	436	25,406	19,176	44,582
E. Maitland	60	123	25	208	11,396	26,075	37,471
W. Maitland	17	19	4	40	215	501	716
Hunter	294	225	46	565	64,755	53,332	118,087
Upper Hunter ...	1,035	75	89	1,199	1,499,905	61,825	1,561,730
Patrick's Plains...	379	201	48	628	365,480	84,491	449,971
Durham	312	262	81	655	199,446	70,094	269,540
Gloucester	331	109	46	486	496,615	140,746	637,361
Northumberland..	148	85	12	245	47,522	12,299	59,821

The city and suburbs of Newcastle, forming the Newcastle electorate, are not included in this division, which contains a total area of 6,264,760 acres, of which 3,179,279 acres, or 50·7 per cent., are alienated among 4,462 land-holders, so that the average area of holdings in this part of New South Wales is 712·5 acres. Of the area thus alienated 2,710,740 acres, or 85·27 per cent., are in the occupancy of the owners of the land; and 468,539 acres, or 14·73 per cent., are occupied by private tenants. In the farming electorates of East and West Maitland, the Hunter, and Morpeth, the proportion of land held by tenant occupiers is considerable, amounting to about 70 per cent. of the total area alienated in both East and West Maitland, and to 45·2 and 43 per cent., respectively, of the area alienated in that of the Hunter and Morpeth. In the rich grazing district of the Upper Hunter, where some of the finest estates in New South Wales are situated, the land has remained in the possession of the descendants of the original grantees, who consolidated their estates by taking advantage on a large scale of the auction sale and improvement clauses of the Land Act of 1861, and now but 61,825 acres, or about 4 per cent. of a total alienated area of 1,561,730 acres, are held by tenant occupiers. In the electorates of Durham, Gloucester, Northumberland, and Patrick's Plains the proportion of land occupied by the owners decreases from a maximum of 81·2 per cent. in Durham, to a minimum of 77·9 per cent. in Patrick's Plains, of the total area alienated. That held by the tenant occupiers consequently increases from 18·8 to 26 per cent. In this district there are 4,462 holdings; of these 2,704 were occupied by the owners of the land, 1,391 held by tenant occupiers, and 367 persons own a part of their holdings, and rent another part from private owners.

Area alienated.

Although the settlement of the Colony extended from the Cumberland District and the Hunter River Valley inland towards the central tableland of New South Wales, the examination of the present state of the occupation of alienated land in the northern and southern coastal electorates will here take precedence, in order that a clear insight into the development of settlement in the three great natural divisions of New South Wales, viz., the Coast, the Tableland, and the Western Division, may be obtained.

Coastal Electorates.

South Coast Districts.

In the South Coast Districts, from the Metropolitan electorates to the southern portion of the Colony, alienated rural lands are occupied in the manner illustrated in the following table :—

South Coast.

Electorate.	Number of Holdings.				Area—Freehold.	Area—Leasehold.	Total.
	Freehold.	Private Leases.	Partly Freeholds and Leaseholds.	Total.			
	No.	No.	No.	No.	acres.	acres.	acres.
Kiama	237	308	76	621	32,389	43,005	75,394
Illawarra	230	257	65	552	33,464	33,191	66,655
Shoalhaven.........	516	441	103	1,065	181,251	70,257	251,508
Eden	940	174	128	1,242	535,027	69,114	604,141

Area alienated.

The area of alienated land is shown to cover 997,698 acres, or 27·5 per cent., of the total area, 3,622,400 acres, of this portion of New South Wales; the quantity of land occupied by the proprietors themselves being 782,131 acres, or 78·4 per cent., and that leased to tenant occupiers being 215,567 acres or 21·6 per cent. of the area alienated. In the Kiama electorate, out of a total of 75,394 acres alienated, 32,389 acres only, or 43 per cent., are occupied by the proprietors of the land; whilst 43,005 acres, or 57 per cent. are held by tenant occupiers. In that of Illawarra 33,464 acres, or 50·2 per cent., are occupied by the owners of the soil, and 33,191, or 49·8 per cent., by tenant farmers. In the district of Shoalhaven some 70,257 acres, or 28 per cent., of a total area alienated, amounting to 251,508 acres, are held under tenancy, and 181,251 acres are occupied by the owners of the land, whilst in the Southern District of Eden only a small area, representing 11·44 per cent. of the total quantity alienated, is occupied by tenants. There are altogether in these electorates 1,923 occupiers of their own freeholds, 1,180 tenants, and 377 landholders, occupying both leased and freehold lands, a total of 3,480 occupiers, whose aggregate estate would cover 997,698 acres.

North Coast Districts.

In the Northern Coast Districts the occupation of the country has extended rapidly of late years along the banks of the fine rivers which empty into the Pacific Ocean. Figures regarding this district will be found below :—

North Coast.

Electorate.	Number of Holdings.				Area—Freehold.	Area—Leasehold.	Total.
	Freehold.	Private Leases.	Partly Freehold and Leasehold.	Total.			
	No.	No.	No.	No.	acres.	acres.	acres.
Hastings and Manning.........	1,114	381	72	1,567	270,239	64,320	334,559
Macleay	769	336	95	1,200	163,150	39,269	202,419
Grafton	482	226	56	764	158,449	17,023	175,472
Clarence	488	277	51	816	83,487	22,965	106,452
Richmond	1,610	390	79	2,079	634,377	52,586	686,963

Satisfactory settlement.

Of all the districts of New South Wales the Northern Coast electorates exhibit the best and most satisfactory results as regards the settlement of the Crown lands. Nowhere else has the great object of the Act of 1861—to settle an industrious farming population on the soil—been better fulfilled. The total number of land-holders is 6,426, of whom only 1,610 are tenants, whilst 4,463 occupy their own freeholds, and 353 work both their own land and additional areas rented from private owners. The total area alienated in this rich part of the Colony amounts to 1,505,865 acres, or only 18 per cent. of the total extent of the district, which covers some 8,352,640 acres ; and the average area of holdings is 234 acres, ranging from 130 acres in the Clarence to 330 in the Richmond. The proportion of leasehold lands to the area alienated is comparatively small, there being only 196,163 acres so held, or 13·03 per cent. of the total alienated area ; whilst 1,309,702 acres are in the occupancy of the owners of the land themselves.

In the districts of the Richmond and Grafton the area leased by private persons forms only 7·6 and 9·7 per cent. respectively of the area alienated; and the maximum is reached in the Clarence, where 21·6 per cent. of the settled rural lands is occupied by tenants. From the above a pretty clear idea may be obtained of the present state of the rural settlement in the valleys of the coastal rivers of New South Wales, and in all that part of the Colony which extends from the sea to the first slopes of the Great Dividing Range. Geographical features and climate are the main elements in determining the occupation of the soil, irrespective of administrative boundaries. In this part of New South Wales the settlement of the Crown lands has proceeded in a way very different to that which obtained in the high tableland which extends from north to south across the Colony, and divides the rich agricultural valleys of the coastal rivers and their broken mountainous watershed from the monotonous and immense plains of the western district. Notwithstanding the richness of the soil, the want of water and an extremely arid climate render the western lands at present unfit for any industry but that of grazing.

Slow progress of cultivation.

It would be erroneous to imagine, however, because the coastal region is better fitted for the purpose of the agriculturist, the dairyman and the fruit-grower, that the lands at present alienated are solely devoted to these industries; the agricultural development of New South Wales proceeds very gradually, and even in the districts referred to only a small proportion of the settled area is under cultivation.

Central tableland.

After the difficulties raised by nature between the coast and the interior had been overcome, the pioneers of colonization penetrated to the central tableland, and thence extended to the south and the north, afterwards gradually overrunning the whole of the great western interior. At first they followed the course of the great rivers, and occupied, little by little, all the available land until, at the present time, only very inferior country remains unoccupied and unproductive.

Central Tableland.

The central tableland, comprising the electorates grouped around the cities of Bathurst and Orange was the first settled, and the occupation of the alienated lands, at the present time, is illustrated by the figures given in the following table :—

Central Tableland.

Electorate.	Number of Holdings.				Area—Freehold.	Area—Leasehold.	Total.
	Freehold.	Private Leases.	Partly Freehold and Leasehold.	Total.			
	No.	No.	No.	No.	acres.	acres.	acres.
East Macquarie...	445	183	70	698	168,609	87,511	256,120
West Macquarie..	193	235	54	482	124,201	72,677	196,878
Hartley	378	66	42	486	142,251	23,841	166,092
Orange	399	139	50	588	161,761	105,784	267,545
Mudgee	968	233	101	1,302	415,372	61,453	476,825
Wellington...... ...	453	50	34	537	317,334	26,340	343,674
Bogan	1,032	107	77	1,216	1,642,008	295,792	1,937,800
Forbes	650	41	25	716	752,214	65,267	817,481
Molong	665	90	43	798	494,250	33,892	528,142
Carcoar	835	151	84	1,070	597,400	87,031	684,431

Area alienated.

The number of holders of rural lands in this part of New South Wales is 7,893, of whom 6,018 occupy their own freeholds, 1,295 are private tenants, and 580 hold land both as free and lease holders. The area alienated is 5,674,988 acres, representing 23 per cent. of the whole area of these districts, which is computed at 24,544,420 acres. The proportion of land occupied by the landowners themselves is 84·85 per cent., or 4,815,400 acres; whilst 859,588 acres are leased to tenant occupiers. In the agricultural electorates of Orange and East and West Macquarie the proportion of land leased is considerable, 105,784 acres out of 267,545 acres alienated in the Orange electorate, or 39·5 per cent. are held by tenants; whilst in East and West Macquarie 160,188 acres, or about 35·3 per cent. of the settled area, are held in the same manner. The proportion gradually diminishes from 14·4 per cent. in Hartley, to 6·4 per cent. in Molong, as the country is less thickly settled, and is occupied principally for grazing purposes.

Southern table-land.

The conditions of settlement in the southern table-land do not greatly differ from those which obtain in the central districts, the principal feature being the greater proportion of holdings occupied by their proprietors—a class of small graziers who devote little attention to agriculture, and who in the majority of instances, have not yet complied entirely with the conditions under which they will become possessed of their holdings from the hands of the Crown. The following will illustrate the state of settlement in the various electorates which compose this portion of the Colony :—

Southern Table-land.

Electorate.	Number of holdings.				Area—Freehold.	Area—Leasehold.	Total.
	Free-hold.	Private Leases.	Partly Free-hold and Leasehold.	Total.			
	No.	No.	No.	No.	acres.	acres.	acres.
Goulburn......	56	19	2	77	2,238	660	2,898
Argyle.........	889	193	157	1,239	640,310	178,196	818,506
Boorowa	421	37	35	493	399,278	36,115	435,393
Yass Plains...	690	63	72	825	586,073	64,150	650,223
Queanbeyan..	452	77	84	613	535,942	59,147	595,089
Braidwood ...	411	91	61	563	209,812	54,121	263,933
Monaro	959	88	91	1,138	1,120,558	58,980	1,179,538
Tumut.........	504	164	39	707	304,066	104,709	408,775
Grenfell	724	16	24	764	1,046,676	25,410	1,072,086
Young	788	93	41	922	770,282	52,839	823,121
Gundagai	485	127	46	658	704,116	82,549	786,665

Area alienated.

Thus the area alienated in this part of New South Wales comprises 7,036,227 acres, or 41 per cent. of the whole of its area, which contains over 17,107,840 acres. Of these only 716,876 acres, or 10·19 per cent. of the settled lands, are held in tenancy, whilst 6,319,351 acres, or 89·8 per cent., are occupied by the land-owners themselves. Here, as in all other electorates, tenant holdings are more numerous, and cover a greater area, in the agricultural electorates than in those where grazing farms are the rule, and cultivation the exception. In Tumut, Goulburn, Argyle, and Braidwood, the proportion of alienated holdings occupied by nts ranges from 25·6 down to 20·5 per cent.; whilst in the western electorates of Young and Grenfell this proportion is ed as low as 6·4 and 2·4 per cent. respectively. In the of this group of electorates the total number of occupiers is , of whom 6,379 occupy their own freeholds, 968 are tenants, 52 occupy both descriptions of alienated lands.

Northern tableland.

the northern tableland this disproportion between free-s and tenants becomes still more strongly marked, the latter ng a very small minority of the occupiers of alienated lands, to the same causes which operate both in the south and in ntre of this great section of New South Wales. It is evident he object of the Land Act of 1861 to create a class of ndent settlers has been fairly successful, notwithstanding t that the number of actual occupiers is small compared to f the individual selectors who since the year 1861 have d for conditional purchases. The following figures illustrate te of settlement in the part of the country in question:—

Northern Table-land.

ctorate.	Number of Holdings.				Area—Freehold.	Area—Leasehold.	Total.
	Freehold.	Private Leases.	Partly Freehold and Leasehold.	Total.			
	No.	No.	No.	No.	acres.	acres.	acres.
field	384	48	14	446	183,257	5,067	188,324
nnes	398	35	26	459	309,146	20,210	329,356
l	428	56	31	515	309,892	19,709	329,601
ngland	981	88	55	1,124	940,095	60,908	1,001,003
rth	656	85	86	827	888,168	33,344	921,512
dah	356	26	10	392	1,431,035	19,223	1,450,258

Area alienated.

total area alienated in these electorates is 4,220,054 acres, ·4 per cent. of its whole extent of 15,959,680 acres. The number of occupiers of rural settled lands is 3,763, of whom live on their freeholds; whilst only 338 are tenants, and 222 both free and leasehold land. The proportion of the area occupied by private tenants is 158,461 acres, or 3·75 per cent. of the whole extent of alienated land; whilst 96·25 per cent., representing 4,061,593 acres, is occupied by the landowners themselves.

The districts situated in this portion of New South Wales mark the transition between the agricultural settlements of the coast and the purely pastoral settlements of the great west; the extent of arable land is very considerable, but little is devoted to cultivation, as it is more economical, in the present stage of occupation of the soil, to use the land for grazing purposes, the great distance to the markets being the principal obstacle to a rapid extension of agriculture on the tableland.

Decrease of alienation in the West.

It will be noticed that the proportion of land alienated considerably diminishes as the western districts are reached, except in those parts of New South Wales where the excellence of the land for grazing purposes, and even for agriculture, made it imperative some years ago for the pastoral tenants of the Crown to secure their holdings by means of systematic alienations under the auction sale and improvement clauses of the Land Act of 1861. In the extreme west, however, the area of alienated lands is very small, and as alienation is practically prohibited in this part of New South Wales under the Land Act of 1884, the present state is not likely to be subject to much modification for the next fifteen or twenty years. The land is fit only, under the present climatic conditions, to be occupied by pastoralists, and the Act aims at facilitating the progress of this branch of industry by opening up the country to occupiers of relatively small means under the system of homestead leases, described in former pages.

South-western District.

In the south-western districts, which are traversed by the principal permanent rivers of western New South Wales, the land has been alienated wholesale, and immense areas of freehold land are in the hands of a very small number of landholders; while in the north-western districts the freehold estates are neither so numerous nor of so enormous an extent as those of the south.

The state of settlement of the alienated lands in the south-western electorates may be ascertained from the following figures:—

South-Western.

Electorate.	Number of Holdings.				Area—Freehold.	Area—Leasehold.	Total.
	Freehold.	Private Leases.	Partly Freehold and Leasehold.	Total.			
	No.	No.	No.	No.	acres.	acres.	acres.
Balranald	334	35	28	397	2,280,586	188,691	2,469,277
Murrumbidgee	1,374	126	113	1,613	4,906,151	160,055	5,066,206
Murray	409	36	44	489	3,283,707	54,712	3,338,419
Albury	211	17	10	238	100,971	5,227	106,198
Hume	796	95	70	961	1,987,241	79,855	2,067,096
Wentworth	93	16	4	113	245,514	17,518	263,032

The total area of these districts is computed at 49,413,798 acres, of which 13,310,228 acres are now alienated, or about 27 per cent. of the whole area. In some of the electorates, however, such as that of the Murray, 70 per cent., or 3,338,419 acres are alienated, out of a total of 4,753,920 acres; whilst in those of Albury and the Hume the proportion of alienated land is 69·4 and 65·8 per cent. respectively. In that of the Murrumbidgee 48·75 per cent. of the whole area is alienated, but in the districts of Balranald and Wentworth this proportion is reduced to 13·5 and 2 per cent. respectively. If, therefore, that portion of the

Riverina.

south-western country commonly called Riverina—comprising the electorates of the Hume, Albury, the Murray, and the Murrumbidgee—is considered apart, it will be seen that it covers an area of 18,438,518 acres, of which 10,577,919 acres are alienated, and in the hands of 3,301 holders, which gives each one an average area of 3,204 acres. Again: 7,870,394 acres are alienated in estates of over 10,000 acres in extent, the number of such being 186. With regard to the western district, the alienated lands are in the great majority of cases occupied by their owners, although some 506,058 acres, principally on the banks of the rivers, are leased to tenants for farming purposes. The total number of holders is 3,811, of whom 3,217 occupy their own freeholds, 325 are absolute tenants, and 269 hold both as proprietors and lessees

North-western Districts.

In the north-western districts, as already stated, the proportion of land alienated is very small, being only 4,088,486 acres, or about 6 per cent., out of an area of 69,113,142 acres, which is the total extent of the division. These are in the hands of 1,514 occupiers, which would give each an average estate of 2,700 acres in extent. It would appear that, contrary to the general rule, the proportion of alienated lands held by tenants is greater in Bourke than in any other western district, probably from the fact that some large pastoral estates, containing a considerable proportion of alienated land, are held under lease from the original Crown lessees. The total number of holders is 1,514, of whom 1,325 are proprietors, 117 tenants, and 72 hold both descriptions of settled land.

Aggregation of holdings.

It will be seen from an analysis of the figures that settlement in New South Wales has hitherto tended towards the concentration into comparatively few hands of the lands alienated by a large number of individual selectors, and that in the great majority of cases the land is in the occupancy of the owners themselves. Tenancy, as understood in older settled communities, has made comparatively little progress, 89·56 per cent. of the land alienated being yet in the occupancy of the proprietors themselves, over an area of 36,757,144 acres, whilst only 4,285,485 acres, or 10·45 per cent., is held under lease from the freeholders.

Size of holdings.

The following table shows the subdivision of the alienated estate of New South Wales, according to size of holdings and the relation that the area held under private lease bears to the total alienated in each category. It will be seen that the proportion of land leased is greatest in areas below 200 acres, and gradually decreases as the area of holdings increases, which in reality means that tenancy is more the rule in the agricultural than in the pastoral districts of the Colony in proportion to the area settled and occupied :—

Size of Holdings.	Number of Holdings.				Area—Freehold.	Area—Leasehold. *a*	Total.	Percentage of Land to the various sizes of Holdings.	Percentage to Total Area Alienated.	
	Freeholds.	Private Leases.	Partly Free and Lease hold.	Total.					Freehold	Leasehold
	No.	No.	No.	No.	acres.	acres.	acres.	per cent.	per cent.	per cent.
1 to 15 acres......	4,973	2,123	194	7,290	27,667	14,058	41,725	0·10	66·31	33·69
16 „ 200 „	15,153	5,788	1,107	22,048	1,581,653	482,177	2,063,830	5·03	76·64	23·36
201 „ 400 „	5,365	744	665	6,774	1,705,622	289,967	1,995,589	4·86	85·47	14·53
401 „ 1,000 „	5,719	442	688	6,849	3,828,859	527,877	4,356,736	10·61	87·88	12·12
1,001 „ 2,000 „	1,712	140	339	2,191	2,726,326	405,956	3,132,282	7·64	87·04	12·96
2,001 „ 10,000 „	1,355	92	363	1,810	6,354,186	930,981	7,285,167	17·75	87·22	12·78
10,001 acres and upwards..	506	28	124	658	20,532,831	1,634,469	22,167,300	54·01	92·63	7·37
Totals and Percentages...	34,783	9,357	3,480	47,620	36,757,144	4,285,485	41,042,629	100·00	89·56	10·44

(*a*) Leased from private persons.

PART XI.

Agricultural Production.

Soils adapted for the produce of many climes.

THERE is found in the Colony of New South Wales so great a variety of soils and climate that almost any kind of crop, whether specially the produce of temperate, and even cold climates, or of sub-tropical regions may be grown. The nature of the soil varies greatly, according to the geological formation, in different parts of the Colony; but, except in the inaccessible or rugged portions of the mountain chains, and the more arid regions of the north-western districts, the soil is almost everywhere susceptible of cultivation. The area absolutely unfit for occupation of any sort has been roughly estimated at less than 5,000,000 acres, and it may be said that the greater part of the area adapted for settlement is also in some form or another capable of being cultivated. The question of the success of agricultural operations in New South Wales is, however, altogether independent of the mere fitness of the soil for cultivation. So far, experience has shown that an irregular rainfall and a want of uniformity in the seasons, which are the chief characteristics of the climate of a large part of the interior, are a great drawback to the success of agricultural settlements.

Rich soil of coastal valleys.

Owing to the confined nature of their basins the portion of the valleys of the coastal rivers adapted for agriculture is limited, but nowhere could there be found richer soil than along the lower reaches of these rivers. The brush lands of the Tweed, Richmond, Clarence, Macleay, and Manning are proverbial for the richness of their soil, and the sandy alluvial formations of the Hunter and Hawkesbury valleys have been cultivated for nearly a hun years without rest, being enriched periodically by fluvial inundations. The valleys of the southern rivers of the coast district are not less rich, and along the banks of the Shoalhaven, Clyde, Tuross, and other streams are found unmistakable evidence of thriving industry.

Variety of climate.

The variety of climate experienced in a region extending through 8 degrees of latitude, from 29 degrees to 37 degrees south, of necessity causes a corresponding variety in the kinds of produce which may be successfully grown.

Principal crops grown in the coast districts.

Maize is grown in almost every part of the coastal region, along the river valleys, especially north of Sydney, and yields an abundant return. Sugar-cane is cultivated only on the northern rivers, very little being raised southward of the Clarence. Wheat is grown in the Hunter valley to some extent, but not in the country further north. In the southern district, although the little wheat raised shows a comparatively high return, the extent of land cropped is too small to enable a reliable inference to be drawn as to the true capabilities of this rich district. The climate of the northern coast is particularly favourable to the growth of semi-tropical products, especially sugar-cane, coffee, and tobacco, and in the Hunter valley the vine finds a natural home.

Soil suitable for fruit-trees.

The soil of the coastal region is almost everywhere suitable to the growth of fruit-trees, both semi-tropical and European. Oranges, lemons, shaddocks, and other varieties of this class, thrive well on all parts of the north coast, and nowhere better than in the Wianamatta formations about Parramatta, and in the valleys of the Hawkesbury, Nepean, and Parramatta Rivers.

Suitability of table-land for European cereals.

On the high plateau of the Great Dividing Range a variety of soil is met with, and there is much rich agricultural country, especially suited for the cultivation of wheat, barley, oats, and other agricultural products of cold and temperate regions. Notwithstanding the drawbacks in the shape of uncertain seasons and variable rainfall the results obtained in the cultivation of cereal crops in the rich soils of the Monaro, Tumut, Bathurst, Wellington, Mudgee, and New England districts, on the mountain plateaux, are certainly encouraging.

Alluvial deposits.

In the western division of the Colony the alluvial deposits, extending along the course of the great rivers which carry the drainage of the larger portion of the Colony of New South Wales to the waters of the Murray, have formed a soil of excellent quality, and the cereals which form the more considerable items in the sustenance of mankind might be grown in immense quantities were the rainfall more abundant and regular. Attempts have been made on small patches of country here and there to test the agricultural qualities of the soil, with the result that in years of abundant and regular rains the crops have been magnificent, but in times of drought the returns have been as scanty as in favourable seasons they have been plentiful. Notwithstanding this drawback, the cultivation of cereals in the Murray and Murrumbidgee valleys is greatly on the increase, and in no other part of New South Wales can there be noticed a greater advance in agricultural settlement, except perhaps in the Richmond and Clarence district, bordering the north coast of the Colony. It may be confidently asserted with regard to Riverina, that wherever it may become practicable to conserve water, or to establish an intelligent system of irrigation, the soil will repay with a bountiful harvest the labours of the agriculturist. Over what area systematic irrigation may be carried on has not yet been ascertained, though possibly this may not prove to be very considerable, owing to the comparatively small volume of the rivers whence the water must be obtained, and the irregularity of their flow. The physical formation of New South Wales has been described elsewhere. It will have been noticed that it differs greatly from any other country where artificial irrigation has been practised on a large scale, and that the absence of mountain ranges capped with perpetual snow, forming natural and inexhaustible reservoirs, is a marked peculiarity of the country.

Practicability of irrigation.

CULTIVATION.

Area under cultivation.

The area of New South Wales under cultivation during 1889 amounted to 1,164,475 acres. This, however, includes 217,403 acres of artificially sown grasses, so that the area under crop, properly so called, was 947,072 acres:—

Year ended 31st March.	Total number of acres in cultivation, including grass lands.	Per inhabitant.
	acres.	acres.
1877	513,840	0·84
1878	546,556	0·85
1879	613,642	0·91
1880	635,641	0·89
1881	710,337	0·96
1882	645,068	0·83
1883	733,582	0·90
1884	789,082	0·92
1885	852,017	0·94
1886	868,093	0·91
1887	977,664	0·97
1888	1,048,305	1·00
1889	999,298	0·92
1890	1,164,475	1·04

Extent of agricultural cultivation.

Only 0·48 per cent. of the total area of New South Wales is actually devoted to the growth of agricultural produce, and if the small extent of land upon which permanent artificial grasses have been sown for dairy farming purposes be added to the area under crops, this proportion only slightly exceeds one-half per cent. of the total area of New South Wales and barely represents one acre per head of its population.

Proportion of cultivated to alienated land.

An impression appears to prevail that in this country purchased lands are used by the settlers for agricultured purposes whilst leased lands only are used for grazing, but such is far from being the case, as the very great majority of selectors are only graziers in a small way of business, and agricultural settlements, pure and simple, are confined to very limited areas in the alluvial lands of the lower valleys of the coastal rivers and around two or three centres in the middle division of the table-land. Computed on the area of alienated rural lands, the proportion of area cultivated throughout New South Wales is only 2·31 per cent.

The proportion of land cultivated by the land-owners themselves is 737,054 acres, or 77·8 per cent. of the total area under crops, there being only 210,018 acres or 22·2 per cent. cultivated by tenant occupiers. If the area under permanent grasses be added, the proportion of cultivated leased lands would be somewhat higher, as a considerable portion of the dairy farms in the southern coast are held on lease from the original proprietors.

Electorates adjacent to the Metropolis.

In the electorates adjacent to the metropolis, comprising the districts of Central Cumberland, Camden, Hawkesbury, Nepean, and Wollombi, the total area cultivated amounts to 60,232 acres or 6·20 per cent. of the area alienated, which covers 971,979 acres. The greater part of this area is devoted to the cultivation of a variety of orchard produce, the orange, lemon, and various kinds of other fruit being grown in great quantities, whilst market gardens cover a fairly extensive area in the immediate vicinity of the metropolis. Maize, potatoes, and other crops are raised in the rich alluvial soil of the Hawkesbury Valley, where the leasing of land for farming purposes has attained a large proportion, 19,636 acres, or 32·60 per cent. of the area under crop being cultivated by tenant farmers. This proportion is greater in the electorate of Camden, where 7,518 acres, or 46·5 per cent., out of a total area of 16,173 acres under crop, are cultivated by tenants. In the Nepean electorate 41·5 per cent., and in that of the Hawkesbury 35·9 per cent., of the area cultivated is worked by leaseholders, the proportion of land so cultivated being reduced to 10·7 per cent. in the district of Central Cumberland.

The Hunter River District.

The district embraced within the basin of the river Hunter is, as regards settlement, divided into two very distinct portions, the lower part being occupied by a mining and agricultural population, and the upper portion forming one of the most prosperous pastoral districts of New South Wales. In the Lower Hunter nearly 10 per cent. of the alienated land is under cultivation, this proportion reaching 73·2 per cent., in West Maitland, maize, lucerne, potatoes, and grape-vines being the principal crops grown.

In the whole of the Hunter River District, embracing the electorates of Morpeth, East and West Maitland, the Hunter, Upper Hunter, Patrick's Plains, Durham, Gloucester, and Northumberland (exclusive of the city electorate of Newcastle), the total area under crop is 55,230 acres, or 1·73 per cent. of the alienated rural lands. The proportion of land cultivated by tenant occupiers amount to 22,357 acres, or 40·5 of the total area under crop in the whole district, but in the districts of West Maitland, East Maitland, and Morpeth the proportion of land cultivated by tenants is much higher—between 74 and 66 per cent. of the whole area cultivated. In the electorates of Durham, Patrick's Plains, and Hunter, the proportion decreases to 51·7, 41·7, and 40·8 per cent. respectively, whilst in those of Northumberland, Gloucester, and the Upper Hunter, it is reduced to 39·3, 28·9, and 6·8 per cent. respectively.

South coast districts.

The south coast districts are principally devoted to the industry of dairy farming, and it is from Shoalhaven, Kiama, Illawarra, and Eden, that the metropolis derives most of the dairy produce which it requires for the daily consumption of its population. The area under cultivation, in the strict sense of the term, that is, irrespective of that laid down in permanent artificial grasses, is only 30,509 acres, or 3·05 per cent. of the total area of alienated Crown lands. With the exception of the electorate of Eden, tenant farmers occupy a larger area than that which is cultivated by the landowners themselves, the proportion of land worked by tenants to the total area under crop being 58·1, 56·8, and 54·6 per cent. respectively in the electorates of Shoalhaven, Illawarra, and Kiama. It is probable if the total area occupied for agricultural and dairy purposes, which covers 150,000 acres, or 15 per cent. of the area alienated in the whole district, is considered, that the percentage of tenant holdings would be found still higher. Dairy produce forms the basis of the industry of this portion of New South Wales; and besides grasses the principal crops grown are maize and potatoes, which generally give excellent average returns.

North coast districts.

The north-coast districts, comprising the electorates of the Hastings and Manning, the Macleay, Grafton, Clarence, and the Richmond, altogether contain 111,842 acres of land under crop, or 7·4 per cent. of the area alienated, which is computed at 1,505,865 acres. The proportion of the area farmed by tenant occupiers and the proprietors themselves is as follows:—Area cultivated by owners, equal 71,723 acres, or 64·1 per cent.; area cultivated by tenants, 40,117 acres, or 35·9 per cent. In the electorates of Grafton and the Macleay the proportion of area cultivated by tenants is greater, reaching 43·9 and 41·7 per cent.; but on the Hastings and Manning, the Clarence, and the Richmond, this proportion only attains 34·2, 35·0, and 27·9 per cent. of the total area cultivated. The proportion of land cultivated to that alienated is 7·4 per cent. for the whole district, but this does not include the area laid down in grasses for dairy purposes in the Richmond and the Macleay districts; including 39,793 acres of grasses, the total area used for agricultural or dairy purposes in the north-coast district amounts to 151,635 acres, or 10·1 per cent. of the area alienated. The dairy industry is rapidly assuming large proportions in the two electorates just mentioned, but the principal crops raised are maize and sugar, the latter being the chief industry of the more northerly-situated electorates of the Richmond and the Clarence Rivers, with some acres in that of the Macleay.

Districts favourable for farming.

The agricultural future of the north-coast districts certainly looks very bright, as there is no scarcity of land suited to the purpose of the farmer, and the climate is favourable to the growth of all the natural productions of sub-tropical and temperate zones. The lack of means of transport has been the principal drawback to the progress of agricultural settlement in this district, but now that the question of providing railway communication throughout its extent is receiving the attention of Parliament, and that large areas of country lately held under pastoral lease are being thrown open to free selection, it may be safely predicted that the progress of the districts in the coming years will be very rapid.

The central table-land.

Passing on to the table-land and considering the state of its agriculture, it will be seen that in the Central portion, including the electorates of East and West Macquarie, Hartley, Orange, Mudgee, Wellington, Bogan, Forbes, Molong, and Carcoar, the area under crop amounted to 227,742 acres, or 4·01 per cent. of the area alienated, which is computed at 5,764,988 acres. East and West Macquarie and Orange are the leading agricultural electorates of the group. In these the proportion of land cultivated to the area alienated is 10·46, 12·35, and 11·67 per cent. respectively. In the surrounding electorates the proportion decreases until in the Bogan the minimum of 0·84 per cent. is reached. The proportion of land cultivated by the landowners for the whole district equals 74 per cent., the remaining 26 per cent. being worked by tenant farmers, but this proportion does by no means represent the state of agricultural occupation in every electorate. In East and West Macquarie 35,785 acres or 70 per cent. out of a total of 51,122 acres under crops are cultivated by tenant farmers, almost the whole of it being under wheat, whilst the reverse proportion is the rule in the other electorates. Wheat is the staple crop of this district.

Southern table-land.

In the Southern division of the table-land, embracing the electorates of Goulburn, Argyle, Boorowa, Yass Plains, Queanbeyan, Braidwood, Monaro, Tumut, Grenfell, Young, and Gundagai, the area cultivated amounts to 183,762 acres or 2·6 per cent. of the alienated area, computed at 7,036,227 acres. The conditions of agricultural occupation differ very much from those which obtain in the coast electorate and also in the older settled portion of the central table-land. Cultivation is carried on here and there in a desultory sort of fashion as an addition to grazing, which is by far the more important of the two occupations. Except perhaps in the districts of Tumut, Yass Plains, and Gundagai, where a considerable area is devoted to the growth of wheat and maize, the cultivation of the soil is a secondary consideration. Within the last few years tobacco culture made very great strides in the districts mentioned, but an excessive production of leaf, prepared in an inferior manner and difficult of sale, is causing a shrinking of this industry; many growers, particularly Chinese, have abandoned its cultivation for that of maize, and in some instances have taken to raising vegetables for the metropolitan market. The proportion of land cultivated by tenant occupiers is only 16·7 per cent., 83·3 per cent. of the land under crop being cultivated by the landowners themselves. Wheat, oats, barley, maize, potatoes, and tobacco are the principal crops raised in this district.

Northern tableland.

In the northern portion of the tableland a similar state of affairs exists, but the proportion of land under crop to the total area alienated is still further reduced, there being only 77,608 acres, or 1·84 per cent. cultivated out of 4,220,054 acres alienated in this division, which embraces the Electorates of Tenterfield, Glen Innes, Inverell, New England, Tamworth, and Gunnedah. Private tenancy of land is reduced to much smaller proportions than is the case in the districts in which agriculture is carried on independently of grazing, as only 7,135 acres, or 9·2 per cent. of the area under crops is cultivated by tenant occupiers. Wheat and oats and maize are the principal crops raised in this district.

The Western Districts.

The Western districts are almost essentially devoted to pastoral pursuits, and little need be said on the subject of agriculture, except as regards a portion of the South-western Division, including the Electorates of the Hume, the Murray, the Murrumbidgee, and Albury, in which the cultivation of the soil on land some years ago declared to be unfitted for agricultural settlement is rapidly extending. In the above electorates an aggregate area of 180,602 acres is under crop, principally wheat, whilst a fairly large area is devoted to the cultivation of the vine. Most of the lands under crop are cultivated by their owners, only 17,588 acres being worked by tenants.

New South Wales a pastoral country.

It will be readily understood from the above analysis that New South Wales is essentially a pastoral country, and that, with the exception of a few districts where agriculture has taken a hold, the cultivation of the soil is quite secondary to stock-breeding, This circumstance is by no means due to the lack of good land, nor may it even be ascribed to the defects of the climate, for New South Wales possesses land, the capabilities of which for producing any kind of agricultural produce are unsurpassed, and its climate is certainly superior to that of other parts of the Australian Continent where the cultivation of cereals has been carried on for years past. Taken as a whole the yield of crops in New South Wales is larger than that obtained in any other continental colony, but, on the other hand, communication with the metropolitan market is much more difficult. Agriculture cannot be developed unless access to the markets be rendered both easy and cheap, and to secure this desirable end in a country so vast, and with so small a population as New South Wales, is a matter of time and expenditure. Under existing circumstances cattle-breeding is an occupation the results of which are far more remunerative whilst entailing considerably less physical labour and personal inconvenience; but as population increases and there remains no more land to be taken up for grazing purposes, agricultural pursuits must be resorted to under the pressure of an ever-increasing demand.

Department of Agriculture.

The importance of agriculture is clearly recognized by the State, and much is to be expected from the labours of the newly-created Department in directing the efforts of individuals in the proper channels, acquainting the farmers with the results of scientific investigations in this branch of industry, and applying the experience gained in other lands to the economical developments of the natural resources of the soil of New South Wales. The Department of Agriculture was formed at the beginning of the present year and placed under the administration of the Secretary for Mines, whose title was altered to that of Secretary for Mines and Agriculture. The question of providing technical agricultural education, and establishing a college and model farms in various parts of the country, is at present engaging the attention of that Department, and Parliament has voted a sum of money for the purpose.

Quantities and value of produce.

The principal crops at present grown in the Colony are wheat, maize, oats, barley, potatoes, sugar-cane, tobacco, grapes, oranges, and other fruits. The quantities produced in the year ended 31st March, 1890, and the value of each crop is given in the following statement, the values being the average for the whole Colony at the time the harvest was gathered.

Principal Crops cultivated.	Area.	Produce.	Value.
Cereals :—	acres.	Bushels.	£
Wheat	419,758	6,570,335	1,059,466
Maize	173,836	4,212,906‡	617,087
Barley	5,440	113,109	17,815
Oats	22,358	543,330	57,050
Other grain	1,573	28,057	4,419
Hay :—		Tons.	
Wheat	82,880	140,348	442,097
Oats	103,129	156,920	635,526
Barley	2,160	3,691	13,288
Lucerne and grass	23,937	65,270	234,972
Green food for cattle	27,916	....	132,601
Potatoes	17,551	50,096	180,346
Sugar-cane	18,730*	168,862	50,658
Tobacco	3,239	Cwt. 27,724	51,752
Grapes for wine and brandy	3,603	Gals. 688,685	138,477
„ table use	4,264†	Tons. 2,951	82,628
Oranges	9,804	No. of Doz. 11,074,392	138,430
Market garden produce	5,409	....	486,810
Orchard produce	18,867	....	471,675
Minor crops	2,618	....	26,180
Permanent artificial grasses	217,403	....	....
Total	1,164,475	....	4,841,277

NOTE.—The values given are those at the places where the produce was grown.

* Including 11,382 acres unproductive.

† Including 2,521 acres vines as yet unproductive.

‡ On account of loss through floods 33 % has been deducted from the returns of the Clarence and Richmond districts, and 50 % from those of the Macleay.

The results of the season 1889-90 may be considered as very satisfactory, especially when they are compared with those of the previous seasons. The value of the agricultural produce of New South Wales for each year since 1880 is given herewith :—

Year.	Value.	Year.	Value.
	£		£
1880	2,930,794	1885	3,375,882
1881	4,194,346	1886	3,943,645
1882	3,304,891	1887	4,151,692
1883	3,806,182	1888	3,648,214
1884	2,836,697	1889	4,841,277

WHEAT.

Principal centres of cultivation.

In the early days of settlement the Hawkesbury River Valley and the country adjacent to the towns of Parramatta, Liverpool, Penrith, Camden, and Maitland were the centres of considerable wheat growing. Unskilful farming, and the consequent exhaustion of the soil, with the attendant evils of rust, smut, and other diseases, caused these districts to be abandoned little by little as wheat country, and on the discovery of the Bathurst Plains their importance at once ceased. The districts of Bathurst, Goulburn, Gundagai, Tumut, Young, Monaro, and New England were each in turn occupied by agriculturists, and the suitability of their soil and climate, as well as that of the whole of the mountain plateau, for the growth of this cereal became definitely established.

Cultivation very irregular.

The cultivation of this grain during the past thirty years has been very irregular. For some years prior to 1867 the area of land under crop remained almost the same from year to year, being little more than 125,000 acres. In 1867, however, the wheat area had increased to 175,000 acres, and at that acreage it remained practically unaltered for twelve years. Then, again, more land was laid under wheat, and in 1878–9 the area had increased to 233,252 acres. Since then the area of land under this cereal has been greatly extended, and during the year 1887–8 there were reaped 389,390 acres, an area larger than in any previous year; and an increase of 51,660 acres, or 15·29 per cent. above the area under this grain crop in 1887. During 1888–9 the area under wheat for grain fell to 304,803 acres, and owing to the severity of the season much of this area was not reaped, as the poorness of the crop would not pay the farmers to harvest it. The total production of the wheat fields of the Colony amounted to only 1,450,503 bushels, equal to an average of 4·75 bushels per acre, which was the smallest return ever experienced in New South Wales. But the prospects of the season 1889–90 induced the farmers to increase the area under wheat for grain, the total area reaching 419,758 acres, and the production 6,570,335 bushels, which is the largest crop ever harvested in New South Wales, though the average yield of 15·65 bushels per acre has often been exceeded in the past. The average yield during the whole of the period, which extends from the date of the passing of the first Crown Lands Act to the season which ended on 31st March, 1890, was 13·34 bushels, the lowest yield being 4·75 bushels, obtained in 1888–9, the most bountiful, 17·37 bushels per acre, gathered during 1886–7. During the first ten years of the period named, from 1862 to 1871, the yield per acre appears to have been comparatively a small one, having averaged only 10·70 bushels. Thence followed a period of fair seasons, extending over seventeen years, when the average fluctuated between a minimum of 10·45 bushels obtained in the season of 1885–6, and a maximum of 17·37 in the season 1886–7, averaging 14·63 bushels per acre for the whole period, 1871–2 to 1887–8.

Average yield.

The prospects of the coming season, 1890–91, appear very encouraging, and it is expected that a larger area will be placed under cultivation than in any previous year. The long period of rainy weather gives promise of a magnificent spring, and, contrary to usual Australian experience, fears are expressed that the excessive rainfall, extending far into the season, may injure the coming crops. Such wet seasons as those of 1889 and 1890 are almost as abnormal as the extreme drought of 1888, but the

Season of 1890-91.

farmer has much more to fear from drought than flood, and the experience of the past shows the necessity of conserving, wherever possible, the water which rain-clouds supply in so irregular a fashion.

Influence of rainfall.

The influence of the rainfall, however, can hardly be shown by means of figures. There are too many considerations affecting the value of rain to admit of this being done. The period of the year at which rain falls, the quantity falling at any one time, and evaporation, are elements of as much importance as the total rainfall.

Cultivation of wheat.

The following statement shows the state of wheat cultivation since the year 1862:—

Area under Wheat—Yield per Acre.

Year ended 31 March.	Area of crop.	Bushels.	Yield per acre.
	Acres.		Bushels.
1862	123,468	1,606,034	13·01
1863	108,136	1,054,954	9·75
1864	103,942	808,919	7·78
1865	104,568	1,246,458	11·92
1866	131,653	1,013,863	7·69
1867	175,033	2,226,027	12·72
1868	149,142	1,433,807	9·61
1869	164,206	1,887,085	10·88
1870	189,452	3,200,959	16·89
1871	147,997	999,595	6·75
1872	154,030	2,229,642	14·48
1873	177,551	2,898,463	16·32
1874	169,330	2,238,414	13·43
1875	166,911	2,148,394	12·87
1876	133,609	1,958,640	14·66
1877	145,608	2,391,979	16·43
1878	176,686	2,445,507	13·84
1879	233,252	3,439,326	14·74
1880	233,368	3,613,266	15·48
1881	253,137	3,717,355	14·69
1882	221,887	3,405,966	15·35
1883	247,361	4,042,356	16·35
1884	289,757	4,345,437	15·00
1885	275,225	4,271,394	15·52
1886	264,867	2,733,133	10·45
1887	337,730	5,868,844	17·37
1888	389,390	4,695,849	12·06
1889	304,803	1,450,503	4·75
1890	419,758	6,570,335	15·65
Average yield for twenty-nine years			13·34

Average yield for twenty-five years.

Dividing the quarter century ending with March, 1890, into quinquennial periods, the means were :—

Quinquennial period.	Average per acre.
1866–1870	12·06 bushels.
1871–1875	12·90 „
1876–1880	15·12 „
1881–1885	15·37 „
1886–1890	12·42 „

Various districts compared.

The increased yield of the period since 1874 is partly due to improved farming; but, at the same time, it must not be lost sight of that the occurrence of rust, smut, and other forms of disease in wheat has been less frequent and less general of recent years. Grouped according to the proportion of land under wheat during 1888 and 1889 to the total area, the districts stand as follows :—

District.	Proportion of land under wheat to whole area of district.	
	1888–89. Acres.	1889–90. Acres.
Young	1 in 40	1 in 30
Gundagai	47	33
Bathurst	99	51
Orange, Molong, and Carcoar	80	52
Murray Valley	124	114
Yass and Boorowa	223	152
Tamworth	252	156
Murrumbidgee	229	172
Mudgee	194	184
Goulburn	471	214
Tumut	537	465
Monaro	824	522
Wellington and Bogan	616	527
Hunter Valley	901	641
Glen Innes, Inverell, and Tenterfield	1,025	707
Forbes and Grenfell	1,428	710
New England	1,295	741
Namoi and Gwydir Valleys	4,012	4,222

Area of wheat cultivation in districts.

The area of land under wheat in the remaining districts of the Colony is so small as not to be worth taking into consideration, and is therefore neglected in the ensuing comparisons. Owing to the alteration of the boundaries of the electoral districts in 1881, comparison by electorates is not possible beyond that year. Taking, therefore, the nine years which have since elapsed, the total area under wheat in each district was:—

Area under Wheat, in Acres.

Districts.	1881-2.	1882-3.	1883-4.	1884-5.	1885-6.	1886-7.	1887-8.	1888-9.	1889-90
Goulburn	8,636	9,598	9,452	9,289	5,661	7,787	9,126	3,505	7,706
Yass	10,808	12,552	15,732	14,824	12,701	16,824	17,596	10,745	15,751
Wellington and the Bogan.	8,321	10,463	12,722	12,700	11,153	20,170	17,722	16,445	19,[illegible]
Monaro	9,832	10,253	10,917	10,922	7,072	9,892	13,466	6,880	10,876
Murray Valley	38,928	38,705	45,493	45,792	50,097	54,240	74,080	64,548	70,729
Orange	37,429	45,045	52,294	47,890	45,564	59,721	55,033	41,157	62,936
Gundagai	9,150	12,004	15,390	15,412	18,438	20,108	24,253	20,998	30,572
Forbes	5,215	5,858	9,285	8,156	7,775	11,558	12,545	7,063	14,204
Murrumbidgee......	5,638	4,357	13,143	11,799	19,793	26,204	46,309	45,254	62,663
Tamworth..........	10,600	11,750	14,275	12,644	12,838	16,543	16,179	9,737	15,768
New England	6,294	7,687	7,836	7,486	6,201	7,047	8,186	3,524	6,159
Namoi and Gwydir Valleys.	3,180	3,226	3,436	3,617	4,114	5,485	5,980	4,209	4,068
North Coast	471	547	531	503	270	218	288	302	237
Glen Innes	7,428	8,771	8,321	9,465	8,241	8,789	10,401	6,152	8,927
Young	13,316	16,750	21,964	18,978	21,582	28,609	34,119	31,891	42,918
Hunter River Valley.	9,012	8,058	8,288	7,750	6,499	8,326	8,235	5,479	7,704
Bathurst	23,834	25,573	21,456	20,269	12,858	18,817	18,889	10,736	21,276
Mudgee	8,283	9,851	12,163	11,586	10,125	12,749	11,511	11,705	12,333
Tumut	2,660	3,283	3,698	2,926	2,185	2,739	3,405	2,720	3,141
South Coast	383	359	364	261	141	138	152	164	159
Hawkesb'y & Nepean	2,338	2,274	2,763	2,797	1,333	1,597	1,351	1,273	1,417
Western Districts....	115	214	230	159	220	166	551	312	310

Agriculture gaining ground.

The foregoing figures are instructive, as they throw considerable light upon the history of wheat cultivation and agricultural settlement in New South Wales. Although the interval under examination is a short one, extending over a period of nine years only, great changes are shown to have taken place in parts of the country hitherto devoted mainly to pastoral occupation. It is also

Increase of agriculture in Riverine District.

esting to note that agriculture is gaining ground in those cts where the greater number of the huge freehold estates, ulated by pastoralists under the auction sales and improve- clauses of the Land Act of 1861, are situated. It is in the s of the Murray, the Murrumbidgee, and the Lachlan that ruggle between squatter and selector has been fiercest, and the most remarkable increase of agricultural settlement both ards wheat-growing and agriculture generally is now ex- l. The following statement, showing the total area of land ated in the districts abutting on the three great rivers above- oned, in the years ended March 1882 and 1890 respectively, rve to illustrate this point :—

Districts.	Total Area under Cultivation.	
	In 1882.	In 1890.
	Acres.	Acres.
urray Valley	55,763	93,954
urrumbidgee	13,045	83,201
and Grenfell	12,429	23,420
gai	13,295	35,647
'lains and Boorowa	16,194	24,017
	21,132	52,498
Total	131,858	317,737

Murrumbidgee district.

far the greater proportional increase is exhibited in the case Murrumbidgee electoral district, where the total area under ation has increased fully six times in eight years; whilst on rerage the figures for the other districts show an increase out 95 per cent. It is also worthy of remark that the area cultivation in these districts represents 27 per cent. of the area tilled in New South Wales, including that laid down in inent grasses.

regards the cultivation of wheat for grain only, it will be that in most of the above-mentioned districts it has taken the st share of the total increased area placed under cultivation g this short period of six years. In the Murrumbidgee the area under this crop has increased to nearly eleven times w was in 1882; in that of Young it has grown from 13,316 acr 42,918 acres; in that of Gundagai, from 9,150 acres to 3 acres; and in the Murray River Valley, from 38,928 acres to 7 acres; whilst in the other districts it has increased in prop to that of the general cultivation. Reverting to the examin of the whole of the principal wheat-growing districts of New

Average yield per acre.

Wales, the average yield per acre for the period of eight under notice will be seen below:—

Wheat.—Average Yield per Acre, in Bushels.

Districts.	1881-2.	1882-3.	1883-4.	1884-5.	1885-6.	1886-7.	1887-8.	1888-9.	1889-90.
Goulburn	15·6	17·3	13·3	17·1	9·5	18·9	10·7	5·1	14·5
Yass	15·2	17·5	14·2	17·0	11·1	17·7	11·5	4·2	14·2
Wellington & Bogan...	13·5	16·2	14·1	17·2	6·4	16·2	12·9	2·6	18·7
Monaro	16·4	16·6	14·9	16·6	11·4	17·0	15·9	8·1	15·6
Murray Valley	10·8	12·3	13·6	9·6	12·1	14·4	10·2	7·7	10·9
Orange	17·3	17·9	16·7	15·7	9·9	18·3	11·8	3·8	18·9
Gundagai	18·2	18·2	15·8	18·4	11·4	20·2	12·6	5·6	18·6
Forbes	16·5	11·3	15·1	13·4	7·9	20·5	11·3	4·1	22·5
Murrumbidgee........	14·1	14·5	14·4	14·4	8·0	19·9	11·1	3·4	16·1
Tamworth	17·3	16·6	16·0	16·3	10·1	14·7	15·1	4·0	7·7
New England	19·2	21·1	19·3	20·1	15·4	17·1	16·7	10·1	14·0
Namoi and Gwydir....	18·4	22·7	15·7	15·9	8·7	13·9	13·3	2·6	9·5
North Coast	16·3	21·0	22·2	18·2	16·6	13·9	21·3	18·6	15·1
Glen Innes	19·5	20·8	19·6	20·5	19·2	13·8	17·8	5·9	12·6
Young	17·1	16·7	13·4	17·5	9·9	19·2	11·0	3·5	18·4
Hunter River Valley...	14·8	8·0	15·4	15·6	8·4	16·8	12·9	3·7	12·7
Bathurst	14·5	15·3	11·9	14·8	8·2	16·4	12·2	1·7	14·7
Mudgee	14·2	21·9	14·1	18·1	6·3	19·0	12·9	0·5	15·7
Tumut	20·5	20·5	19·0	23·6	14·2	20·0	14·3	13·4	15·2
South Coast	20·7	20·5	22·6	23·0	17·1	14·6	17·4	15·5	18·2
Hawkesbury and Nepean.	13·6	13·3	13·9	13·2	12·8	16·3	12·0	8·8	8·0
Western District......	10·6	7·4	10·8	9·4	5·5	12·6	9·0	0·8	10·7
Average for whole Colony.	15·3	16·3	14·9	15·5	10·4	17·3	12·1	4·7	15·6

Effect of drought.

The disastrous effects of the drought of 1888 are pl illustrated in the foregoing table. With the exception of Coast districts, which are liable to suffer rather from exce moisture than otherwise, all the wheat-growing centres affected, and those that in ordinary seasons would yield the best returns were among the greatest sufferers. The effects of this unexampled season were indeed so ruinous that in the Mudgee and Bathurst districts the farmers did not gather in sufficient grain for the next season's sowing. The Government was appealed to, and in consideration of the prevailing distress, orders were given to supply the farmers with sufficient wheat for the next year's operations. In this way some 50,000 bushels of wheat, imported chiefly from New Zealand, were supplied under certain liberal regulations as to recouping the Government for their expenditure.

Season of 1889-90.

The season 1889–90, which opened with the best promise, did not in all parts of the country fulfil the hopes which the early spring had raised. Incessant rains about the time of harvest destroyed large areas, and considerably reduced the yield of grain expected by the farmers in the Central Districts of Bathurst, Orange, and Mudgee, whilst rust made its appearance principally on the northern tableland, and in the valleys of the Hunter and the Murray. The district of Tamworth appears to have suffered more than any other from this destructive pest, and in some parts of the country surrounding that town the crops were reported as total failures.

To obtain anything like an exact estimate of the losses caused by rust last season is a difficult task, as in a computation of that kind one only of the factors is known. It is clear that the loss is equal to the difference between the crop expected, and the quantity of grain actually reaped, but though the latter figure is practically known it is a matter of some difficulty to fix upon the average expectation of the crop in the districts affected, and it must not be forgotten that the tendency to exaggerate such expectations, and consequently the losses, is almost general. The following estimate is based upon the difference between the average yield realized in 1890, and the maximum yield per acre obtained in any year for which figures are available, a maximum which, under normal circumstances, representing as it does the production of the best known season, was not likely to be much exceeded. The principal districts affected are given below and the probable loss computed as follows.

District.	Area under wheat for grain, 1889-90.	Average yield per acre, 1889-90.	Maximum average yield per acre known.	Production of 1889-90.	Production on the basis of the best average known.	Estimated loss by rust.
	acres.	bushels.	bushels.	bushels.	bushels.	bushels.
Tamworth ...	15,768	7·7	17·3	121,870	272,786	150,91
New England	6,159	14·0	21·1	86,490	129,964	43,47
Namoi and Gwydir.	4,068	9·5	18·4	38,562	74,851	36,28
Glen Innes ...	8,297	12·6	20·8	112,838	172,577	59,73
Hunter River	7,704	12·7	16·8	98,036	129,427	31,39
Mudgee	12,333	15·7	21·9	194,259	270,092	75,83
Murray	70,729	10·9	14·4	773,489	1,018,497	245,00
Tumut	3,144	15·2	23·6	47,705	74,198	26,49
Total......	.....	......	......	.....	......	669,14

The average price of wheat may be taken at 3s. 6d. per bushe during the months of February and March, 1890; the lo estimated above would therefore represent an amount of about £117,000 to the farmers. The price quoted is for new wheat, and is somewhat lower than the general average of the year.

Average yield of districts compared.

Comparing now the returns of the various districts, but leaving aside the North and South Coast districts, where the area under wheat is too small to afford a reliable test of their wheat-growing capabilities, it will be seen that Tumut, New England, and Glen Innes, have given the largest as well as the most consistent yield during the whole period. This is what might have been anticipated. The situation of these districts on the high plateau of the main range dividing the coastal region of the Colony from the Great Western Plains, places them under conditions as to climate and rainfall similar to those which obtain in the richest wheat-growing countries of Europe and America.

Gundagai, Monaro, Orange, Young, and Mudgee, follow next in the order named, as regards yield per acre, which in each case may be considered fairly good. Yass, Goulburn, Forbes, and Tamworth also yield a fair average crop. The scale sensibly decreases in the other districts of the Colony, which, with the exception of Bathurst and the Hunter Valley, are situated on the confines of the lower slope of the main range, and the great plains of the interior.

Decrease in yield as descent is made to plains.

It may be stated as a general law that those districts situated on the higher table-lands of the main Dividing Range are the best adapted to the cultivation of wheat, and that the average yield decreases in an almost constant ratio as a descent is made towards the plains, where the average falls as low as in similar formations in South Australia and Victoria. Bathurst is the only exception to this general rule, but as it is in the district in which the greater quantity of wheat is grown, as compared with the total area, the reason of its small average annual yield must be sought apart from the circumstances of its geographical situation. It may be that the constant succession of crops has injured the productiveness of the soil, and brought about a decreased yield in the district where cultivation has been most continuous.

Rainfall in wheat centres.

The average rainfall over some of the most important wheat-growing centres during the year 1889 will be found below, together with the average since 1881. In the abundant rainfall of 1889 will be found the immediate cause of the fine harvest which was almost everywhere experienced.

District.	1889. Inches.	1881-9. Inches.	District.	1880. Inches.	1881-9. Inches.
Goulburn	27·83	23·15	Tamworth	32·65	25·17
Yass	26·44	24·81	New England	36·64	28·41
Wellington	28·45	21·87	Bathurst	24·26	23·15
Monaro	33·30	24·73	Mudgee	31·00	24·40
Murray	30·12	20·54	Glen Innes	36·54	30·11
Orange and Carcoar	32·09	34·28	Young	26·64	24·78
Gundagai	26·10	32·35	Hunter Valley	40·37	26·12
Forbes	24·38	18·81	Tumut	37·57	30·36
Murrumbidgee	26·19	17·95			

Average yield of New South Wales compared with other colonies.

If the average production of wheat per acre in New South Wales be compared with that of the other colonies of the Australasian group, it will be found that this Colony occupies a very satisfactory place. Its average is greater than that of any other portion of continental Australia, although somewhat less than the Tasmanian yield, and considerably below that of New Zealand. The following table shows the average produce of each Australasian Colony since 1874.

Average Yield of Wheat in Bushels per Acre in Australasia for the Years ended 31st March, 1875–90.

	1875.	1876.	1877.	1878.	1879.	1880.	1881.	1882.	1883.	1884.	1885.	1886.	1887.	1888.	1889.	1890.	Mean.
New South Wales..................	12·87	14·66	16·43	13·84	14·74	15·48	14·69	15·35	16·35	15·00	15·52	10·45	17·37	12·06	4·76	15·65	14·08
Victoria	14·57	15·49	13·15	12·41	8·76	13·29	9·95	9·40	9·03	14·10	9·52	8·99	11·49	10·81	7·10	9·75	11·11
South Australia	11·75	11·95	5·40	7·76	7·15	9·78	9·96	4·57	4·21	7·94	7·53	7·53	7·53	9·75	3·85	7·91	7·78
Queensland	..	..	..	10·63	13·56	8·11	20·40	8·41	13·89	4·34	16·17	5·11	3·12	22·10	0·89	15·88	10·97
Western Australia	12·00	11·00	12·00	11·00	9·97	14·94	14·94	7·00	11·00	13·00	13·00	11·50	12·25	9·80	10·50	14·00	11·74
Tasmania	18·51	16·38	19·30	18·12	16·10	23·22	14·99	18·88	20·27	17·74	19·30	17·32	17·91	16·67	20·16	15·42	18·14
New Zealand.........................	28·15	31·54	28·63	26·30	22·94	28·10	25·07	22·69	26·28	20·02	25·43	24·40	24·89	26·37	24·22	25·15	26·01

Comparison with other countries.

Compared with the majority of European countries, the yield of wheat must appear inconsiderable, both in regard to the total quantity obtained and the produce per acre. The return from some of the chief wheat-growing countries is given as follows:—

Wheat-growing Countries.	Average produce of wheat per acre.
	Bushels.
Denmark	31·1
United Kingdom	26·9
Norway	25·1
Belgium	21·5
Holland	21·5
Manitoba	20·3
Germany	18·8
France	16·9
Austria	16·4
British Columbia	15·0
Ontario	14·1
Hungary	13·6
Italy	12·1
United States	11·7
Quebec, Nova Scotia, and New Brunswick	9·9
Russia in Europe	4·6
New South Wales (since 1875)	14·1
Australasia	14·2

Price of wheat.

The price of wheat is subject to constant fluctuations as the following table, giving the average rates ruling in the Sydney market in the months of February and March of each year, since 1864, will show. These figures exhibit clearly the tendency to a gradual reduction in the value of that cereal, the rate for 1890 being the lowest of the series. As New South Wales has never grown sufficient wheat for home consumption, the price of wheat in Sydney is generally governed by the rates obtained in the neighbouring Australian markets, where a surplus is produced. This, again, is now determined by the figures realized in London, which is usually equal to that ruling in Adelaide, plus freight and charges. The prices in the following table are for an imperial bushel, and, being for new wheat, are slightly below the average of the year.

Wholesale Prices of Milling Wheat in the Sydney marke
the months of February and March, 1864-90.

Year.	February.			Ma
	per bushel.			per b
	£	s.	d.	£
1864	0	7	0	0
1865	0	9	6	0
1866	0	8	4½	0
1867	0	4	3	0
1868	0	5	9	0
1869	0	4	9	0
1870	0	5	0	0
1871	0	5	7½	0
1872	0	5	0½	0
1873	0	5	1	0
1874	0	6	9	0
1875	0	4	7½	0
1876	0	5	1½	0
1877	0	6	1½	0
1878	0	6	1½	0
1879	0	5	0	0
1880	0	4	8	0
1881	0	4	1	0
1882	0	5	5	0
1883	0	5	1½	0
1884	0	4	3	0
1885	0	3	10½	0
1886	0	4	3½	0
1887	0	3	10	0
1888	0	3	6	0
1889	0	4	9	0
1890	0	3	6	0

WHEAT CROP OF THE WORLD.

The importance of Australasia in the wheat market
world is not great, since out of a total production o
2,145 million bushels raised in 1889 only about 42½ million

Wheat production of the World.

per cent., were Australasian. The following statement, the returns of the U.S. Department of Agriculture, approximate crop of the world for the year named :—

Countries.	Yield.
	bushels.
tes	490,500,000
	32,000,000
States and Chili	28,375,000
	51,075,000
	131,746,879
	318,226,000
	48,355,010
in and Ireland	74,761,000
	106,095,792
	51,075,000
	236,600,000
	101,156,875
	42,563,500
pean Countries	47,246,175
	217,675,296
tic Countries	75,193,750
	* 40,669,686
ia	42,480,131
tries	8,836,876
Total	2,144,891,770

* Yield 1889-90.

UMPTION AND PRODUCTION OF BREADSTUFFS.

Production of wheat not equal to demand.

oduction of wheat still remains considerably below the ion of the Colony. The accompanying table has been with a view to illustrate the state of the Colony in this and shows the total consumption of wheat, the home n, and the net deficiency for twenty-eight years.

Apparent Consumption and Production of Breadstuffs in New South Wales.

Year.	*Apparent consumption.	†Available home production.	Net deficiency.	†Apparent consumption of wheat per head.	† Home produce per head.	Apparent deficiency
	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.
1862	2,333,614	1,458,715	874,899	6·4	4·0	2·4
1863	1,867,639	912,234	955,405	5·0	2·4	2·6
1864	2,590,623	667,729	1,922,894	6·7	1·7	5·0
1865	2,487,146	1,072,727	1,414,419	6·1	2·6	3·5
1866	2,706,766	775,307	1,931,459	6·5	1·8	4·7
1867	3,188,730	2,023,832	1,164,898	7·3	4·6	2·7
1868	2,449,400	1,214,233	1,235,167	5·4	2·7	2·7
1869	2,894,180	1,635,998	1,258,182	6·1	3·5	2·6
1870	4,258,515	2,992,978	1,265,537	8·7	6·1	2·6
1871	2,503,487	796,055	1,707,432	4·9	1·6	3·3
1872	3,198,375	1,998,956	1,199,419	6·1	3·8	2·3
1873	4,064,706	2,680,177	1,384,529	7·5	4·9	2·6
1874	3,388,065	2,019,784	1,368,281	6·0	3·6	2·4
1875	3,856,142	1,964,678	1,891,464	6·6	3·4	3·2
1876	3,647,938	1,755,235	1,892,703	6·0	2·9	3·1
1877	3,624,066	2,134,070	1,489,996	5·8	3·4	2·4
1878	4,271,220	2,125,332	2,145,888	6·5	3·2	3·3
1879	4,763,341	3,116,015	1,647,326	6·9	4·5	2·4
1880	5,149,867	3,245,422	1,904,445	7·1	4·5	2·6
1881	4,267,446	3,390,710	876,736	5·6	4·4	1·2
1882	5,289,216	3,043,525	2,245,691	6·6	3·8	2·8
1883	5,023,468	3,618,475	1,404,993	6·0	4·3	1·7
1884	5,737,260	3,893,146	1,844,114	6·5	4·4	2·1
1885	6,520,784	3,808,908	2,711,876	7·0	4·1	2·9
1886	5,893,766	2,218,383	3,675,383	6·0	2·3	3·7
1887	7,809,642	5,306,682	2,502,960	7·6	5·2	2·4
1888	7,909,104	4,186,298	3,722,806	7·4	3·9	3·5
1889	6,524,438	1,444,000	5,080,438	5·9	1·3	4·6

* No account is taken of the quantity added to or taken from stocks as the case may be.
† Exclusive of wheat required for seed.

Consumption in different years compared.

In this table a higher figure is given for the available home production of 1889 than in previous ones. It is thought that a much more gloomy view of the harvest was taken in some districts than was justified by the actual results. What are believed to be the right figures have therefore been inserted. Taking the table as it stands a false idea would probably be formed if the result of any one year were separately compared with that of any other, as it frequently happens that the transactions of one year affect the trade of the following year to a very large extent.

Nevertheless the average yearly consumption, calculated over a series of years, may be ascertained from those figures with some degree of accuracy, and will be found to amount to 6·4 bushels per head of the mean population during a period of twenty-eight years, and 6·5 bushels per head if only the last twelve years are taken into consideration.

From the following table, in which account is taken of the position of the market at the end of each year and of the quantity by which the stock on hand was either increased or diminished during the year, the true average yearly consumption per head is ascertained to amount to 6·5 bushels, a result identical with that obtained by the former method. The true average consumption will however be found to alter very little from one year to the other, and to maintain itself at a figure closely approximating the general average of the period. The amount of home production for the year 1887, given in the table on page 282, is more than stated below. It is believed that about one million bushels were injured by rain, and therefore did not enter into consumption.

Consumption of Breadstuffs in New South Wales.

Year.	Stocks at end of year.	Stocks increased or diminished during year.	Local production in excess of seed.	Net import of flour and grain.	Total consumption.	For food only per head.
	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.
1877	310,000	....	....	....	....	.. ..
1878	305,000	*5,000	2,125,000	2,146,000	4,276,000	6·50
1879	605,000	300,000	3,116,000	1,647,000	4,463,000	6·46
1880	1,000,000	395,000	3,245,000	1,904,000	4,754,000	6·55
1881	350,000	*650,000	3,391,000	877,000	4,918,000	6·46
1882	490,000	140,000	3,044,000	2,246,000	5,150,000	6·47
1883	300,000	*190,000	3,618,000	1,405,000	5,213,000	6·24
1884	310,000	10,000	3,893,000	1,844,000	5,727,000	6·50
1885	750,000	440,000	3,809,000	2,712,000	6,081,000	6·53
1886	320,000	*430,000	2,218,000	3,675,000	6,323,000	6·45
1887	470,000	150,000	4,300,000	2,503,000	6,653,000	6·56
1888	1,240,000	770,000	4,186,000	3,723,000	7,139,000	6·70
1889	590,000	*650,000	1,440,000	5,100,000	7,190,000	6·49

* Decrease during year.

Referring to the table on the previous page, showing the relation between the apparent consumption and the home production of

Average yearly production.

breadstuffs, it will be seen that during the first half of the period covered by the table the production was slightly more than half the consumption, the deficiency being about 48 per cent. In the second half of the series the home production had somewhat increased, so that the deficiency was scarcely more than 42 per cent.

It will be seen from the table last given, as well as from the preceding one, that New South Wales is still far removed from the position of being able to supply the wheat required for the food of its inhabitants. From the following summary table it would seem that in this respect the country is little better off than it was at the earliest period covered by the figures :—

Period for which an average has been taken.	Consumption of wheat per head.	Home produce per head.	Deficiency per head.
Years.	Bushels per annum.	Bushels per annum.	Bushels per annum.
1862-66	6·1	2·5	3·6
1867-71	6·5	3·7	2·8
1872-76	6·4	3·7	2·7
1877-81	6·4	4·0	2·4
1882-86	6·4	3·8	2·6
1887-90	6·5	3·7	2·8

In the above figures the production and consumption of 1890 have been estimated. With this allowance the deficiency for the last four years was 2·8 bushels per head, equivalent to 43 per cent. of the whole consumption. Taking for granted that the consumption of wheat will not be more than 6·5 bushels per head during 1891, the probable requirements for the year, exclusive of seed, will be 7,700,000 bushels, to obtain which, if an average crop be reaped, the breadth of land to be sown would need to be 626,000 acres, or 50 per cent. more that that of the past season.

The average consumption of wheat in New South Wales as shown above amounts to 6·5 bushels per head; a rate which is higher than that of most countries whose records have been available for reference; the excess over that of the United Kingdom being 0·6 bushels per head. The consumption includes what is used for all purposes except seed, a fact which must be borne in mind, as the quantity of flour used for the manufacture of biscuits and other articles, as well as for other than food purposes, is not inconsiderable. The following is the average consumption for the principal countries:—

Average consumption.

	Consumption per Head. (Bushels.)
United Kingdom	5·9
France	8·1
Germany	3·0
Russia	2·1
Austria	2·9
Italy	5·4
Spain and Portugal	6·4
Belgium and Holland	5·0
Scandinavia	1·4
Turkey	6·1
United States	5·4
Canada	6·6
Australasia	6·6

That of the Australasian Colonies will be found below:—

New South Wales	6·50
Victoria	6·28
South Australia	6·50
Queensland	6·09
Tasmania	6·70
New Zealand	7·56

The average consumption of breadstuffs in Western Australia has not been ascertained.

Importation of breadstuffs.

The relative proportions of flour and wheat imported have changed very considerably during the last twenty-five years, as will be seen hereunder:—

Average yearly Import of Flour and Wheat.

Period.	Flour in equivalent of wheat.	Wheat.
	Bushels.	Bushels.
1862–66	1,066,892	801,765
1867–71	905,540	750,705
1872–76	1,012,110	838,388
1877–81	1,529,140	545,914
1882–86	2,484,645	613,180
1887–89	3,334,633	1,549,841

Decline in quantity of wheat imported.

These figures would seem to warrant the supposition that the mill-power of the Colony is deficient, but this is only a partial view of the case. A comparison between the importation of flour and the total home consumption gives an entirely different result, as will be seen from the next table. The figures in each case are the yearly averages for the different periods :—

Comparison between amount of Flour Imported and Made in the Colony.

Period.	Total consumption of flour in equivalent of wheat. — Yearly average.	Flour imported for home consumption in equivalent of wheat. — Yearly average.	Flour manufactured in the Colony in equivalent of wheat. — Yearly average.	Percentage of flour manufactured in the Colony to whole consumption. — Yearly average.
	Bushels.	Bushels.	Bushels.	
1862–66	2,397,159	644,206	1,752,953	73·1
1867–71	3,058,863	610,430	2,448,433	80·0
1872–76	3,631,045	804,692	2,826,353	77·8
1877–81	4,415,189	1,170,719	3,244,470	73·5
1882–86	5,692,898	1,835,218	3,857,680	67·8
1887–89	7,207,127	2,360,065	4,847,062	67·3

Mill-power and consumption.

It will be seen from this table that though the mill-power of the Colony, or rather the manufacture of flour, has hardly kept pace with the increase in consumption, the actual quantity of flour manufactured yearly has increased from an average of 1,752,953 bushels to 4,847,062 bushels.

The change in the character of the imports noted above, that is, the substitution of flour for grain, is attributable to a change in the markets whence the supply is drawn, Victoria having to a large extent superseded South Australia. The prominence of Victoria as an exporter of breadstuffs to New South Wales dates from 1878, and the excess of flour over wheat exported by that Colony is very pronounced. South Australia, whence the chief supply of New South Wales was formerly drawn, and from which large quantities are still obtained, has, since the competition of Victoria became formidable to her, greatly diminished the proportion of wheat to flour, so that latterly the quantity of South Australian wheat sent to this Colony has been comparatively insignificant. Of late years New Zealand has become an important factor in the grain market, and the general failure of the crop of 1888–9 throughout continental Australia operated greatly in favor of that Colony, whose crop was as bountiful as that of the rest of Australasia was scanty.

Export of breadstuffs.

The export of breadstuffs from New South Wales represents for the most part a re-export of foreign produce, Queensland being the chief buyer. In the year 1881 the export, which had previously been small, suddenly increased threefold. And though showing a decline during the succeeding years it still retains respectable proportions, the average during the last five years being nearly 19 per cent. of the total quantity imported.

Wheat grown for hay.

Wheat is also grown in considerable quantities for hay and dry fodder for cattle, and the area under cultivation is steadily increasing, although the produce is still short of the requirements of the country. The whole of the wheat grown for hay in the Colony is consumed locally. The following statement shows the extent of land under wheat for hay, with the yearly produce, during fourteen years :—

Area under Wheat for Hay, and Yield.

Year ended 31 March.	Acres.	Produce in tons.	Average per acre.	Year ended 31 March.	Acres.	Produce in tons.	Average per acre.
1877	17,115	21,297	1·24	1884	49,348	55,119	1·12
1878	29,640	29,137	0·98	1885	86,584	87,328	1·01
1879	22,888	31,320	1·36	1886	105,122	74,606	0·71
1880	25,281	32,943	1·30	1887	74,070	109,851	1·48
1881	41,137	44,037	1·07	1888	60,340	70,392	1·16
1882	39,428	42,378	1·07	1889	102,838	42,041	0·41
1883	42,592	43,997	1·03	1890	82,880	140,348	1·69

Cultivation of wheat for hay increasing.

From the foregoing figures it will be seen that the cultivation of wheat for hay is increasing at a much greater ratio than for grain, the area so cultivated having reached in 1888–89 nearly five times that cultivated for the same purpose in 1877; in 1889–90 the area devoted to hay was not so large, the season being generally so propitious that a greater proportion of the total area sown with wheat was allowed to come to grain than in former years. Long series of dry years may in some measure account for the increased area devoted to hay, but the steady demand for hay and chaff, wheaten as well as oaten, and large import of this produce, fully justify an extension of its ltivation. There still exists a considerable difference between ne demand for hay and the supply from within the Colony, as here were 45,097 tons of hay and chaff imported in 1888, principally for consumption in the Metropolitan district, and 54,779 tons in 1889; but this difference is well within the capacity of the colony to produce, and the time is not far distant when New South Wales will become independent of Victoria for the supply of this commodity. South Australia will probably continue, however, to supply for some years to come the growing wants of the Barrier, Broken Hill, and Silverton districts.

The total area under wheat in 1889, both for grain and for hay, was 502,638 acres, producing 6,570,335 bushels of grain and 140,348 tons of hay, the value of both kinds of produce being £1,501,563.

MAIZE.

ipal centre
ltivation.

The cultivation of maize in this Colony is almost as important as that of wheat, and forms the staple industry in the valleys of the coastal rivers, which are peculiarly adapted, both by soil and the climate, for the growth of this cereal. On the table-land also its cultivation is attended with fair results, but as the land rises in elevation so does the average produce per acre proportionately decrease. Attempts have been made to grow maize in the western division of the Colony, but success has only been met with under special conditions of natural or artificial irrigation, for the plant demands a considerable amount of moisture, and thrives better in the moist climates of the coast than anywhere else in the country. Although the area under maize is less than half of that under wheat cultivation, the gross yield obtained, measured in bushels, is frequently as large as, and in some seasons greatly exceeds, that of wheat.

Distribution of
production.

The following statement shows the distribution of the production of maize in the Colony during the seven years which ended with March, 1890, as well as the average yield obtained in each district.

Maize.—Average Yield per Acre in Principal Districts.

District.	1883-4	1884-5	1885-6	1886-7	1887-8	1888-9	1889-90	Mean
	Bushels	Bushels	Bushels	Bushels	Bushels	Bushels	Bushels	Bushels
Tamworth and New England	18·9	18·3	19·0	18·0	23·0	12·4	16·2	18·0
Macleay	51·9	43·1	43·2	34·6	24·7	34·6	41·2	39·0
Hastings and Manning	40·6	27·5	33·9	31·6	22·0	34·2	31·0	31·5
The Clarence	36·2	38·4	33·6	20·9	45·0	33·0	31·3	34·1
The Richmond	38·4	27·2	30·0	25·8	23·8	32·3	31·3	29·8
Grafton	42·2	28·6	31·3	18·1	45·0	36·7	33·9	33·7
Gloucester	33·0	19·1	29·7	30·6	21·0	26·4	28·1	26·8
Glen Innes	22·8	19·0	23·8	19·3	23·0	19·8	19·8	21·1
Hunter River Valley	33·0	21·7	29·8	27·4	24·1	27·0	28·0	27·3
Mudgee	19·7	17·6	22·8	20·6	25·9	5·3	26·7	19·8
Tumut	31·9	31·1	44·5	35·6	40·9	45·3	40·3	38·5
Hawkesbury and Nepean	34·7	21·7	33·1	29·6	28·5	28·0	24·5	28·6
South Coast	34·0	31·2	33·5	22·6	36·9	31·4	36·2	32·3
Other districts	15·7	12·1	15·1	17·9	21·8	12·6	21·4	16·7

Coast production largest.

It will be seen that the average production is greatest in the north and south coast districts. In the Hawkesbury and Nepean and the Hunter River valleys, where cultivation extends to a greater distance from the coast, and is under altered circumstances as to rainfall, the yield is somewhat less; while in the higher part of the country the decline is very appreciable, for in the districts of Tamworth, New England, and Mudgee, the average yield is only about 54 per cent. of that of the north coast.

Favourable condition of the district of Tumut.

The district of Tumut appears, however, to be an exception to the general rule, as the yield is almost as large and even more regular than in the coast district. But the area under maize cultivation at Tumut is hardly large enough to justify any deduction being drawn from its exceptional yield. It may, however, be noted that Tumut stands at the head of the other agricultural districts of the Colony as regards its high and well sustained average yield of wheat and other grain crops; a circumstance attributable to the general excellence of the soil, and the fairly abundant and regular supply of rain with which the district is favoured. The relative position of the districts of the Colony where maize is principally grown is as follows:—

Maize-growing in various districts.

Districts.	Average per acre for the period 1883–1889.	Maximum average per acre for any one year.	Minimum average per acre for any one year.
	Bushels.	Bushels.	Bushels.
North Coast	33·6	41·9	26·2
Tumut	38·5	45·3	31·1
South Coast..............	32·3	36·9	22·6
Hawkesbury and Nepean...	28·6	34·7	21·7
Hunter River	27·3	33·0	21·7
Glen Innes	21·1	23·8	19·0
Tamworth and New England	18·0	23·0	12·4
Mudgee	19·8	26·7	5·3
Other districts, where maize is not grown in large quantities	16·7	21·8	12·1

Increase in area devoted to maize.

The area under maize cultivation was increased from 57,959 acres in the year 1862 to 173,836 in 1890, and was therefore trebled in twenty-eight years. Considered in the light of the general advance of settlement, particularly in those districts where this cereal may be successfully cultivated, there is nothing remarkable in the progress thus exhibited, especially as there is no lack of land in New South Wales fit for maize cultivation. The fact is, nevertheless, worthy of notice, that in the year 1888 an additional area of 24,705 acres was laid down with maize for grain, a much greater increase than was shown during any of the previous twenty-eight years, with the exception of the year 1879, when 25,072 acres re added to the area under maize, and though 1889 saw a slight crease of the area cropped, this may be taken as due to the neful effects of the drought in the upland districts, and not to y tendency for the cultivation to retrograde.

State of maize cultivation.

The following table shows the state of maize cultivation in the lony during the period referred to—1862 to 1890 inclusive:—

Maize—Area under Crop, and Yield.

ear ded arch.	Area under crop.	Yield.	Average per acre	Year ended 31 March.	Area under crop.	Yield.	Average per acre.
	Acres.	Bushels.	Bushels		Acres.	Bushels.	Bushels
62	57,959	1,727,434	29·8	1877	116,364	3,879,537	33·3
63	75,991	2,559,258	33·6	1878	105,510	3,551,806	33·6
64	95,689	2,925,950	30·5	1879	130,582	4,420,580	33·8
65	101,584	3,114,212	30·6	1880	135,034	4,761,856	35·2
66	113,443	2,759,904	24·3	1881	127,196	4,518,897	35·5
67	119,519	3,878,064	32·4	1882	117,478	4,330,956	36·9
68	115,522	3,132,505	27·1	1883	118,180	4,057,635	34·3
69	120,807	3,777,405	31·2	1884	123,634	4,538,604	36·7
70	128,041	4,880,805	38·1	1885	115,600	3,389,505	29·3
71	107,178	2,340,654	21·8	1886	132,709	4,336,163	32·6
72	119,956	4,015,973	33·4	1887	146,957	3,825,146	26·0
73	116,745	3,984,958	34·1	1888	171,662	4,953,125	28·8
74	116,648	4,128,865	35·3	1889	166,101	4,910,404	29·5
75	118,436	3,618,436	30·5	1890	173,836	5,354,827	30·8
76	117,582	3,410,517	29·0	Mean for 29 years ……			31·7

Average produce per acre.

The production per acre, as may be gathered from the foregoing ires, is a somewhat variable item, averaging, for the whole of Colony from the minimum of 21·8 bushels, which was obtained the year 1871, to 38·1, the maximum, which was attained in 70. The yield of the last season was estimated at 30·8 per acre, but since the figures were published, news was received of disastrous losses caused by floods in the districts of the Macleay, the Clarence, and the Richmond causing a reduction in the estimated crop of 50 per cent. in the former and 33 per cent. in the two latter districts. The price at present ruling for maize in the Sydney market is high, the average being 3s. 6d. per bushel. The value of this season's crop is estimated at £784,350, due allowance being made for the losses caused by the floods.

Maize is not only cultivated as a grain crop, but a small area is sown for green food for cattle, chiefly on dairy farms. In 1889 the area thus cultivated was 5,610 acres, the greater part in the Camden and south coast districts, and the electorate of Wellington. The total area cultivated with maize in 1890 was 179,446 acres.

OATS.

Principal centres of oat cultivation.

This cereal is cultivated as a grain crop, principally in the wheat-growing districts of the Colony; and as it is essentially a produce of cold climates it thrives best in those parts of the country with a winter of some severity. . Bathurst, Carcoar, Orange, Monaro, and New England are the principal centres of oat cultivation, but the latter district yields the best crops. The average of the Colony for 1889–90 is 24·30, but that obtained in the electorates of the Hunter, Mudgee, Orange, the Bogan, West Macquarie, and Grenfell, reached 35·0, 30·4, 29·5, 29·6, 28·7, and 28·6 respectively; in the electorates of New England, Monaro, and Tumut the averages obtained were 26·8, 23·5, and 23·4 bushels per acre. The oat crop was equally good in the south-western districts and central districts of the Murrumbidgee, Gundagai, Braidwood, Young, and Forbes, where the average per acre was between 22·2 and 27·7 bushels respectively.

No oats are grown in the northern portion of the coastal districts for the purpose of a grain crop. In the southern coast districts the area under oats for grain is very limited, but that under oats for hay or green food is not inconsiderable. The following table illustrates the state of the cultivation of this crop since 1862:—

Area in cultivation.

Oats.—Area under Crop, and Yield.

d .	Area.	Production.	Average per acre.	Year ended 31 March.	Area.	Production.	Average per acre.
	Acres.	Bushels.	Bushels.		Acres	Bushels.	Bushels.
	7,224	152,426	21·1	1877	21,828	461,916	21·2
	9,988	201,415	20·2	1878	18,580	358,853	19·3
	13,022	213,924	16·4	1879	22,129	447,912	20·2
	14,098	189,524	13·4	1880	23,883	516,937	21·6
	10,939	116,005	10·6	1881	17,922	356,121	19·9
	14,914	304,028	20·4	1882	16,347	356,566	21·8
	13,142	156,965	11·9	1883	24,817	617,465	24·9
	12,129	164,687	13·6	1884	17,810	376,635	21·1
	17,301	400,766	23·2	1885	19,472	425,920	21·9
	10,683	119,365	11·2	1886	14,117	279,107	19·8
	13,795	280,887	20·3	1887	23,947	600,892	25·1
	13,586	270,967	19·9	1888	19,393	394,762	20·3
	16,524	322,449	19·5	1889	7,984	109,931	13·8
	17,973	293,135	16·3	1890	22,358	543,330	24·3
	18,855	352,966	18·7				

Cultivation of oats for grain.

ill be seen that the cultivation of oats for grain has been rregularly pursued during the period embraced by this table, rapidly during the earlier years and remaining practically ary since 1877. The market for oats is chiefly in the olitan district, and the demand depends largely upon the f maize, and to the uncertainty of sale the fluctuation in a devoted to the cultivation of this cereal for grain is very due.

Average yield per acre.

average production of oats for the period 1862–89 9·8 bushels per acre, the minimum obtained in any year 10·6 bushels in the season 1865-66, and the maximum ushels in that of 1886–87. Compared with the other ental Colonies, New South Wales holds, in regard to e yield, the second rank, Victoria coming first, but both olonies are surpassed by Tasmania and New Zealand. The e of those two colonies is much more adapted for the suc- cultivation of this grain, the average produce of New d in particular being very nearly equal per acre to that of nited Kingdom, and on a par with the best oat-producing ies of the Old World.

Average yield of oats per acre in N.S. Wales and other colonies.

he following table figures will be found giving the average e per acre in each of the Australasian Colonies during een years, the records for Queensland alone being incomplete.

Average Production of Oats in Bushels per Acre in the Australasian Colonies.

Colonies.	1874.	1875.	1876.	1877.	1878.	1879.	1880.	1881.	1882.	1883.	1884.	1885.	1886.	1887.	1888.	1889.	1890.	Mean.
New South Wales	18·71	16·31	18·72	21·16	19·31	20·24	21·64	19·87	21·81	24·88	21·15	21·87	19·77	25·08	20·35	13·77	24·30	20·52
Victoria......................	15·69	18·46	21·92	19·91	19·39	17·60	24·00	17·62	24·57	26·17	25·07	23·40	21·72	22·91	22·92	14·20	23·87	21·14
*South Australia	10·61	14·61	16·69	10·65	11·96	12·01	15·02	11·50	10·66	11·13	14·65	12·20	12·20	12·20	12·20	5·65	12·76	12·16
Queensland	..	..	..	..	10·11	9·65	24·74	17·94	12·74	16·58	8·90	15·17	4·84	10·41	24·26	5·65	19·41	13·87
Western Australia	19·22	16·00	15·00	15·00	14·00	18·02	19·00	19·00	10·00	15·03	17·00	18·00	14·50	16·00	15·13	23·42	20·00	16·72
Tasmania	20·98	26·82	25·40	24·21	22·32	24·82	28·61	22·13	28·44	27·34	27·39	28·65	26·82	25·95	18·20	27·97	28·00	25·56
New Zealand	29·81	35·22	37·79	31·24	31·68	30·11	36·53	32·05	28·45	32·89	35·11	34·84	26·11	30·92	31·24	29·89	32·00	32·11

* No returns were collected from 1885 to 1888.

Average yield in principal countries.

ıe average yield in the principal countries of the world where are extensively grown is as follows:—

Principal oat-growing countries.	Average produce of oats per acre.
	Bushels.
and	42·1
ium	41·8
ray	39·7
ed Kingdom	37·7
nark	32·3
ce	26·0
ed States of America	26·0
nany	21·9
ria	20·9
gary	20·2
	19·3
sia	12·3
of Good Hope	8·1
South Wales	20·5

Cultivation of oats neglected.

he cultivation of oats as a staple agricultural crop has been h neglected in New South Wales, though the return has been unsatisfactory. It is possible that in the near future grain will receive greater attention, especially as the deficiency ween the production and the consumption is very considerable. e elevated districts of Monaro, Argyle, Bathurst, and New gland, in preference to other parts of the Colony, contain t areas of land where the cultivation of oats could be carried with remunerative results.

Oats as a fattening food.

In connection with this subject it may not be generally known at the relative nourishment of oats exceeds that of either maize wheat, weight for weight. If 100 be taken as the value of oats r fattening purposes, the respective values of equal weights of e other cereals are:—

Oats	100
Wheat	70
Maize	62

And for equal measures:—

Oats	100
Wheat	131
Maize	107

Supply from New Zealand.

The production of this grain is far from satisfying the wants of the Colony, and the importation is, therefore, very large, 1,065,630 bushels of the estimated value of £156,776, having been imported from abroad in the year 1889. New Zealand is the principal source of supply, the quantity obtained from that colony in 1889 being 869,817 bushels. Much yet remains to be done before the Colony can be independent of outside assistance in regard to the supply of oats, as, for some years past the average quantity produced was only 25 per cent. of the amount consumed, and there would thus be an ample market within New South Wales for the produce of 62,000 acres more than is usually reaped.

Oaten hay in demand.

Oats for hay and green food.

In parts of the Colony where the climate is not suitable for maturing the grain, a large area is sown for hay and green food. The area under oats for these purposes has increased from 28,109 acres in 1862 to 126,488 acres in 1887, being over four and a half times as large in the latter as in the former year; but it fell to 86,451 acres in 1888 and 85,439 acres in 1889, increasing however to 103,129 last season. Oaten hay is much in demand, and sells readily at remunerative prices ; and, as there is less expense and lighter labour attached to this form of cultivation, the system of growing oats for hay is consequently more in favour with the farmers of New South Wales than the cultivation of the grain. The area under the two crops stood to each other in the following relation in the year 1889-90:—

Area under oats for grain	22,358 acres.
Area under oats for hay	103,129 ,,
Total	125,487 acres.

The area harvested for grain was only 17·8 per cent. of th total area sown with oats. The following statement shows th cultivation of oaten hay since 1877, and the yield per acre.

Cultivation of Oats for Hay.

ear ended March.	Area.	Produce.	
		Total.	Per acre.
	acres.	tons.	tons.
	77,212	98,901	1·28
	79,333	87,660	1·10
	61,684	75,138	1·21
	67,877	84,915	1·25
	68,758	77,811	1·13
	86,088	100,773	1·17
	112,477	140,979	1·25
	107,451	113,899	1·06
	121,922	149,489	1·22
	96,946	72,484	0·75
	126,488	182,921	1·44
	86.451	96,126	1·11
	85,439	40,753	0·47
	103,129	156,920	1·52

dition to the area cultivated for grain and hay, a small f land is yearly sown for green food ; last season 2,858 oat lands were so used. The total area under oats during ending 31st March, 1890, was therefore 128,345 acres

BARLEY.

ultivation of barley is very limited, the total area under 1889 being only 3,318 acres,—less than it was twenty-six o, but increased to 5,440 acres in 1890. The following lustrates the state of barley cultivation since the year It will be seen that the production of 1889 was less than year of the series, 1863 alone excepted, but in 1890 the on increased to 113,109 bushels.

Cultivation of Barley for Grain.

[illegible]	[illegible]	[illegible]	Year ended 31 March.	Area under barley for grain.	Produce
	[illegible]	[illegible]		Acres.	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	5,862	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	5,055	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	6,132	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	6,130	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	6,066	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	6,425	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	6,473	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	5,081	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	7,085	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	6,079	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	4,402	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	5,316	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	5,440	11
[illegible]	[illegible]	[illegible]			

[illegible] [illegible] of the whole acreage under barley is [illegible] the remainder [illegible] from the District of Mudgee, [illegible] of the Colony. Very [illegible] part of New South [illegible] New E[illegible] districts.

[illegible] The average production per acre during the season 1889-[illegible] bushels per acre, [illegible] per cent. above the a[illegible] for the previous ten years, which amounted to 19·79 bushels. [illegible] condition of this industry is due to the sma[illegible] uncertain demand for the grain within the Colony.

Quantity of barley imported. In 1889 the quantity of barley imported to make u[illegible] deficiency of home production amounted to 132,952 bushels, [illegible] at £23,462, principally obtained from the United States[illegible] Zealand, and Victoria. It would therefore require a very [illegible] effort on the part of the farmers to bring the production [illegible] grain up to the level of the consumption.

Barley for green food for cattle. An area very nearly equal to that cultivated for grain is u[illegible] laid down for hay, and for the purpose of providing green [illegible] for cattle. During last season the figures were 5,440 acres of barley for grain; 4,251 acres of barley for hay and green food, the total area cultivated being 9,691 acres.

PRODUCTION AND CONSUMPTION OF GRAIN.

The total consumption of grain of all kinds in New South Wales, calculated on the basis of the last ten years, amounts to 13·07 bushels per head of population, whilst the produce of the Colony is only 9·8 bushels. The deficiency in the production of wheat amounts to 36 per cent., barley, 31 per cent., and oats, 68 per cent. There is, however, an excess in the production of maize over the local consumption, amounting to 6·4 per cent., which reduces the total average deficiency in the production of the principal grain crops to 25 per cent. There is no apparent reason why the local production of grain should not equal the local demand; on the contrary, the resources of the Colony are such that under normal conditions the supply of grain should largely exceed the requirements, and an increasing excess of production become yearly available for export, either as grain or meat.

N.S.W. yield greater than other colonies.

The experience of past years distinctly shows that in the matter of soil, climate, and other natural conditions, New South Wales is, on the whole, better favoured, and consequently her average yield per acre of wheat, maize, and barley, is greater than that of any other continental Australian province, Victoria not excepted. Extending the field of comparison, the production of cereals is found to reach an average which places New South Wales on a level with countries usually considered as rich agricultural states. It is better than the average yield of the United States, of Italy, and Hungary; and, in some respects, almost on a level with that of Germany, Austria, and France. The area adapted for cereal growing is very considerable, and with a better knowledge of the capabilities of the various kinds of soils and well devised means of water storage, there should be practically no limit to the production of grain.

MINOR GRAIN CROPS.

The minor grain crops harvested are rye, millet, sorghum, and imphee. Little can be said on this subject except that, as in the case of other cereals, the suitability of the soil for their production is an established fact. There is, however, so little demand for these kinds of grain that their cultivation in New South Wales is very limited.

Rye.

The area under rye for grain in 1889 covered only 1,114 acres, whilst 582 acres were sown for green food. The average production of the grain crop was 16·37 bushels per acre.

Millet.

Millet was only cultivated over an area of 905 acres, 459 of which were harvested for grain, the remaining 446 acres being cut green for cattle. The greater part of the crop of millet was obtained in the Hunter River valley. The average production of the Colony amounted to 21·39 bushels per acre.

Sorghum and imphee.

The cultivation of sorghum and imphee for grain appears to have been abandoned, but the area sown in 1889 for green food for cattle amounted to 6,173 acres, chiefly within the dairy farming districts of Kiama, Illawarra, and Shoalhaven.

SOWN GRASSES, AS FOOD FOR CATTLE.

The area sown under green food and grasses for cattle is constantly increasing in the Colony, and in the course of the year 1889 there were under artificial grasses 245,319 acres, an increase of 180,676 acres over the area so cultivated ten years previously.

Lucerne.

Lucerne and other permanent grasses are laid down principally in the Hunter districts, and the south coast, 106,775 acres being thus cultivated in the Shoalhaven and Kiama districts alone. The practice of sowing permanent grasses is also extending to the north coast districts, and in 1889 there were 32,821 acres under grass in the Richmond district. It is, however, in those portions of the Colony where dairy farming is principally carried on that the practice of laying down permanent grasses is most general.

POTATOES.

Area under potatoes.

The cultivation of the potato shows little improvement during the last twenty-five years, in regard to acreage under crop, the area planted being very little in excess of that of the year 1865, whilst the yield of last season was less than that of the year last mentioned. At present the Colony has to make up by importation, from the other colonies, a considerable deficiency, amounting in 1889 to 48,942 tons, or 57 per cent. of the total consumption for the year. The returns for 1889-90, however, exhibit an increase of 2,132 acres in the area cultivated, as well as 13,257 tons on the crop, so that there will be a decrease in the quantity required from abroad during the current year. The total yield during the last season amounted to 50,096 tons. The following table illustrates the state of the cultivation of potatoes during each year since 1862:—

Total production and yield per acre.

Area under Potatoes, and Yield.

Year ended 31 March.	Acres.	Tons.	Year ended 31 March.	Acres.	Tons.
1862	10,040	30,942	1877	14,171	42,939
1863	9,284	24,167	1878	13,862	34,957
1864	11,618	32,141	1879	16,724	53,590
1865	14,398	52,061	1880	19,271	62,228
1866	15,210	31,367	1881	19,095	52,112
1867	18,810	43,870	1882	15,943	44,323
1868	15,440	33,482	1883	14,462	43,461
1869	16,391	30,768	1884	14,953	36,977
1870	17,132	54,200	1885	12,417	31,335
1871	13,927	34,118	1886	15,166	38,695
1872	14,770	44,758	1887	17,322	45,803
1873	15,124	45,112	1888	20,915	61,455
1874	14,212	42,281	1889	15,419	36,839
1875	13,604	38,564	1890	17,551	50,096
1876	13,805	41,203			

Principal centres of cultivation.

The centres of potato-growing at present are Orange, Carcoar, Argyle, and New England. Its cultivation is, however, very widely distributed throughout the Colony, but in many places formerly well-known for its production, it has been largely displaced by maize and other cereals.

TOBACCO.

Soil and climate of New South Wales suited for tobacco.

Both the soil and climate of the Colony of New South Wales are well fitted for the growth of the tobacco plant. Tobacco, however, demands for its proper cultivation special knowledge on the part of the growers, and for this reason is not so largely cultivated as would otherwise be the case. In the year 1863, the first shown on the subsequent table, there were only 896 acres under cultivation, producing 15,315 cwt. of leaf tobacco. In the following years, however, the area had largely increased, chiefly in the agricultural districts of Argyle and the Hunter River valley. Since then the growth of tobacco seems to have been almost entirely abandoned in the districts where it was first attempted, but has spread to other parts of the Colony; the Murrumbidgee, Tumut, and Gundagai electorates being now the principal centres of production. Nearly one-half of all the tobacco grown in the Colony in 1890 was obtained in those districts, and its cultivation is chiefly in the hands of Chinese, few European agriculturists apparently possessing the necessary skill for the proper cultivation and preparation of the leaf.

Chinese principal cultivators.

Area and production.

During the last ten years the area devoted to the cultivation of tobacco has very largely increased, and it is a noteworthy fact that the quantity of locally grown leaf used now amounts to three-fourths of the total quantity manufactured in the Colony. In the year 1889 there was a large increase in the acreage under tobacco, the area being more than four times that of 1887, with a corresponding increase in the yield of leaf, The consequence was that a large proportion of the leaf remained upon the farmers' hands, especially in the district of the Tumut, and the quantity that was sold realised very unsatisfactory figures. The natural result was that many of the farmers decided to abandon the cultivation of tobacco in favour of that of maize. The following table shows the progress of the industry during the last twenty-eight years:—

Cultivation of Tobacco.

Year ended 31 March.	Area.	Production.	Year ended 31 March.	Area.	Production.
	Acres.	Cwt.		Acres.	Cwt.
1863	896	15,315	1877	333	2,440
1864	534	4,851	1878	399	3,049
1865	807	4,036	1879	835	7,932
1866	1,499	7,469	1880	592	6,221
1867	1,326	2,478	1881	1,791	19,469
1868	627	6,035	1882	1,625	18,311
1869	875	7,925	1883	1,815	17,540
1870	366	3,192	1884	1,785	20,006
1871	225	700	1885	1,046	9,914
1872	567	4,475	1886	1,603	22,947
1873	440	2,751	1887	1,203	13,642
1874	199	1,261	1888	2,371	23,465
1875	539	6,069	1889	4,833	55,478
1876	491	4,098	1890	3,239	27,724

Over production of tobacco.

The total consumption of manufactured tobacco and cigars during 1889 was 3,020,241 lb., of which 1,985,987 lb. were made in the Colony out of 560,336 lb. of American leaf and 1,425,651 lb. locally grown. The production for 1890 is equal to 3,105,088 lb., and allowing one-third for damage and waste, there will still remain 2,070,000 lb., a quantity considerably larger than the probable requirements. The local leaf does not compare favourably with the American, and cannot be exported profitably, so that the crop will require to be consumed in the Colony. As the production of the last season was greater than the local requirements and that of the preceding one has not been entirely disposed of, it is very probable that the area under tobacco will show a further decline during the next two years.

SUGAR-CANE.

The first agricultural returns in which mention is made of the cultivation of the sugar-cane and the production of sugar in New South Wales only date from 1863. In that year 2 acres were returned as having produced 280 lb. of sugar, and it will appear strange that out of this quantity 220 lb. were stated to be the produce of one acre of cane, grown in the northern part of the county of Bathurst, while the remaining 60 lb. were produced on the banks of the Macleay River. The district last mentioned may be considered as the principal seat of this industry, during its earlier stages. Cane cultivation, however, soon extended to the northward, and in a very few years the richest portions of the lower valleys of the Clarence, Richmond, Tweed, and Brunswick, were occupied by settlers engaged in the planting and growing of cane. Mills were erected in the chief centres of cane cultivation, and cane-growing and sugar manufacturing are now the principal and best established industries of the north-eastern portions of the Colony.

rthern rivers
t sugar-cane.

The soil and climate of the valleys of the northern rivers are in most respects well adapted to the successful cultivation of the sugar-cane. Occasional spring frosts, however, cause considerable damage, and it was the risk of failure from this cause which led the settlers on the Macleay to seek a warmer climate farther north, free from the danger arising from frost. In this they may be said to have succeeded, though in the Clarence, Richmond, and Tweed valleys, frosts are not altogether unknown.

gress of
ar-growing.

The following table shows the progress of this industry during the last thirteen years. The figures relating to the area yearly placed under cane are obtainable for earlier dates, but the number of tons produced cannot be ascertained prior to 1876. The sugar-cane not being an annual crop, the area under cultivation has bee divided, as far as practicable, into productive and non-productiv the former representing the number of acres upon which ca was cut during the season, and the latter the area over whic was unfit for the mill, or allowed to stand for another year.

Progress of sugar-growing

Area in Production of Sugar-cane.

Year.	Area.		Total.	Production in tons of cane.
	Productive.	Non-productive.		
	Acres.	Acres.	Acres.	
1863	....	....	2	....
1864	....	....	22	....
1865	....	....	141	....
1866	....	....	116	....
1867	....	....	647	.. ..
1868	....	....	2,584	....
1869	....	....	3,917	....
1870	1,475	2,607	4,082	....
1871	1,995	2,399	4,394	....
1872	3,470	2,001	5,471	....
1873	3,565	3,105	6,670	....
1874	4,087	4,453	8,540	.. ..
1875	3,654	2,800	6,454	....
1876	3,524	3,231	6,755	99,430
1877	3,331	3,735	7,066	99,978
1878	2,949	4,489	7,438	104,192
1879	3,675	4,102	7,777	126,119
1880	4,465	6,506	10,971	121,616
1881	4,983	7,184	12,167	128,752
1882	6,362	7,176	13,538	169,192
1883	7,583	7,401	14,984	204,547
1884	6,997	10,520	17,517	105,323
1885	9,583	6,835	16,418	239,347
1886	5,915	9,202	15,117	167,959
1887	8,380	6,907	15,287	273,928
1888	4,997	10,284	15,281	110,218
1889	7,348	11,382	18,730	168,862

Increase of area under crop.

The figures contained in the above table show the gradual progress of the sugar-growing industry, from the small beginnings of 1863. From the starting point of this cultivation until 1884 there is no break in the yearly increase of land put under cane.

During the four succeeding years, however, there was a tendency to retrogress, and the area cultivated in 1888 was less by 2,236 acres than in 1884, or 12·7 per cent.; an increase has taken place in 1889, and the area under cane is now 18,730 acres. It is probable that the low price of sugar and the disturbed state of the markets of the world during these years, forced the sugar manufacturers to correspondingly reduce the price offered for the canes, and so caused the abandonment of this cultivation by the small farmers, who found in the growth of maize less variable results for their labour. Sugar-cane is only cut every second year, and as the planting of cane has been conducted at haphazard, it has chanced that seasons of large production have been followed by small crops in the immediately succeeding year. This will account for the alternately large and small areas of productive cane, which the preceding table shows. From plantations in full bearing the weight of cane cut varies from 25 to 32 tons, while the price paid ranges from 11s. to 13s. per ton, in addition to the cost of cutting, so that the annual yield is from £7 10s. to £10 per acre planted.

Low price of sugar.

Principal centres of sugar-cane cultivation.

The Richmond River electorate is now the principal centre of sugar-cane cultivation, and in 1889 there were 529 holdings, upon which areas, varying from 2 to 520 acres in extent, were devoted to this culture. The total area so planted was 11,410 acres, or over three-fifths of the whole area under cane in the Colony. The yield obtained from 4,260 acres of productive cane amounted to 85,449 tons, showing an average of 20·06 tons per acre.

On the Clarence River, in the electoral districts of Grafton and the Clarence, there were, in 1889, 393 holdings, on which cane was grown, the aggregate area under this crop being 7,150 acres. As in the Richmond River district, the majority of farmers cultivate sugar-cane in addition to other crops, and only a few estates are entirely devoted to its cultivation. Some planters have areas of from 25 to 100 acres in extent under cane, but their number is very limited. The yield in the Clarence and Grafton electorates was 81,970 tons, or an average of 27 tons per acre, cut on an area of 3,035 acres.

In the Macleay River district the area devoted to sugar-cane is now insignificant, only 170 acres having been returned in 1889 as under crop, of which 53 acres were productive.

Total crop of sugar.

The estates on which sugar-cane is grown number 942, and the whole crop of sugar-cane during the last season amounted to 168,862 tons, obtained from 7,348 acres, showing an average production of 22·98 tons per acre, which is 3·19 tons below the average of the former ten years. On the estates belonging to the Colonial Sugar-refining Company, the conduct of the business of the plantation has been entrusted to practical men, and no money spared to obtain the most approved and complete plant for the manufacture of sugar. This company's mills on the Richmond River are among the most complete in any part of the world, and the sugar manufactured is equal to the best Mauritius and West Indian samples. The quantity of sugar consumed in the Colony during the past two years amounted to 87,077 tons, of which 30,847 tons were the product of the local plantations, the area cut in these years being 12,345 acres. The yield of sugar per ton of course varies with the density of the juice, but in ordinary seasons this may be set down at somewhat over 9 per cent.

VINES AND WINE PRODUCTION.

Markets for Australian wine.

In every part of the Colony, excepting the essentially sub-tropical portion, and the higher parts of the mountain ranges, grape vines thrive well, and bear large crops of succulent fruit, equal in size, appearance, and flavour, to the most renowned products of France, the Rhinelands, and Spain; yet the vine-growing and wine manufacturing industries are still in their infancy in this Colony, although their prospects are as hopeful as could be desired. With a demand which the present production hardly satisfies, and the opening up of a market in England, where New South Wales in common with other Australian wines have obtained due appreciation, the future of vine-growing appears fairly assured. The depreciation which French and other foreign wines have suffered, both in quantity and in quality, owing to the scourge of the phylloxera, is an additional reason for the vine-growers of New South Wales looking forward to a successful future for their industry. How small the present production of Australia is compared with the total of the world will appear from the following table:—

Production of Wine in the principal wine-growing countries of the world.

Country.	Production in million gallons.	Country.	Production in million gallons.
Australia	3	Roumania	18
Austria	92	Russia	92
Algeria	72	Servia	53
Cape Colony	5	Spain	608
France	795	Switzerland	29
Greece	46	Turkey and Cyprus	69
Hungary	185	United States	32
Italy	798		
Portugal	132	Total	3,029

Vine planted in early days.

The vine was planted in the early days of the colonization of New South Wales, but it was not until the year 1828 that vine-growing and wine-making may be said to have been fairly established. In that year Mr. Busby returned from Europe with a large collection of cuttings from the most celebrated vineyards of France, Spain, the Rhine valley, and other parts of the continent of Europe, and planted, on his estate in the Hunter River district, a vineyard which has been the nursery of the principal vineyards of the Colony. Some years afterwards the vine was planted in the Murray valley, and in other portions of the Colony, and was found to flourish so luxuriantly that the manufacture of wine received considerable attention. For a time, however, the prospects of this industry seemed very poor, and production diminished considerably, owing, partly, to the want of a market, and partly to the fact that the wine-makers, many of whom were not vignerons by training, possessed only a limited knowledge of the manufacture of wine, and produced at first an article of inferior and unsaleable quality. But in the principal vineyards of the Murray and the Hunter neither pains nor money was spared to introduce skilled labour and put up presses, vats, and other manufacturing appliances of the most approved pattern.

New South Wales wines at the Bordeaux Exhibition in 1882.

The results of this intelligent treatment became apparent, when prizes were awarded to the New South Wales wines at the Paris Exhibition of 1878, followed by an unbroken series of successes at the Exhibitions of Philadelphia, Sydney, Melbourne, and Amsterdam, and latterly at the Indian and Colonial Exhibition in London. But nowhere was the general excellence of the wines of New South Wales more fully recognized than at the Bordeaux Exhibition of 1882. There, in the principal centre of the wine trade of the world, the wines of New South Wales were classed by the most competent judges in the category of "Grands vins," and their value fully appreciated and established. The following statement shows the progress of the wine industry since 1862:—

Progress of vine-growing.

Area under Grape Vines and Production of Wine.

Year ended 31 March.	Total area under vines.	Area under vines for wine-making only.	Production.	Average per acre.	Year ended 31 March.	Total area under vines.	Area under vines for wine-making only.	Production.	Average per acre.
	Acres.	Acres.	Gallons.	Gallons.		Acres.	Acres.	Gallons.	Gallons.
1862	1,130	562	85,328	151·83	1878	4,183	3,027	708,431	234·04
1863	1,460	795	144,888	182·25	1879	4,237	3,024	684,733	226·43
1864	1,641	880	136,976	155·65	1880	4,266	3,091	733,576	237·33
1865	1,849	945	161,299	170·69	1881	4,724	2,907	602,007	200·99
1866	2,126	1,243	168,123	135·25	1882	4,027	2,597	513,688	197·80
1867	2,281	1,358	242,183	178·33	1883	4,448	2,629	543,596	206·76
1868	2,532	1,483	285,283	192·37	1884	4,378	2,660	589,604	221·65
1869	3,117	1,917	412,587	215·22	1885	4,584	2,405	442,612	184·04
1870	3,907	2,039	460,321	225·75	1886	5,247	2,876	555,470	193·13
1871	4,504	2,371	342,674	144·53	1887	5,840	3,131	601,897	192·23
1872	4,152	2,466	413,321	167·61	1888	6,745	3,292	666,382	202·42
1873	4,090	2,568	451,450	175·80	1889	7,072	3,596	805,813	224·71
1874	4,547	3,183	578,985	181·90	1890	7,867	3,603	688,685	191·14
1875	4,308	3,077	684,258	222·37					
1876	4,459	3,163	831,749	262·96					
1877	4,457	3,217	799,709	248·59	Mean for 29 years ……				204·52

Increase of wine industry.

The above figures show that the wine industry has considerably increased during the twenty-nine years under examination, the total area planted being now over six times what it was at the beginning of the period. The average yield per acre has also advanced; but this latter is probably due to the fact that in the earlier period the proportion of young vines not in full bearing was greater than is at present the case. The years 1876, 1877, and 1880 were the best of the series, the average production having in 1876 reached the large figure of 262·96 gallons per acre. The yield of wine last season is 7·86 per cent. below the average of the previous ten years. In the Hunter River District the crop was damaged by the heavy rains which fell when the grapes were nearly ripe and ready for gathering, causing a very great loss to the vignerons. The vintage in the Murray River valley was, however, very successful. The total number of wine growers in 1889 was 1,650, and the average area of each vineyard, was 4·7 acres.

Number of growers.

The phylloxera vastatrix.

The "phylloxera vastatrix," which has caused some damage in the vineyards of the neighbouring colony of Victoria, necessitating stringent legislative measures, has also appeared in some vineyards of the Camden and Seven Hills districts, but, so far, without causing any great ravages. A commission was appointed some time ago to report on the appearance of the disease, and the best means of preventing its spread. The prohibition of the importation of vine-cuttings from abroad has been in force for some time, and the destruction of infested vineyards is at present being carried out under the direction of the commission.

Cultivation of table grapes.

The industry is not restricted to the cultivation of fruit for wine-making purposes; on the contrary, a considerable area is devoted to the cultivation of table grapes, principally in the neighbourhood of Sydney, and in the districts of Ryde, Parramatta, and other portions of Central Cumberland. The area so cultivated in 1889 amounted to 1,743 acres, producing 2,951 tons of grapes, or at the rate of 1·7 tons of fruit per acre. There were also 2,521 acres of vines yet in an unproductive state.

ORANGES.

First orangeries near Parramatta.

The cultivation of the orange has become one of the principal industries of the districts surrounding the metropolis. The first orange groves were planted near the town of Parramatta, and soon spread to the neighbouring districts of Ryde, Pennant Hills, Lane Cove, the whole of Central Cumberland, the Hawkesbury and Nepean valleys, and the mountain slopes of the Kurrajong district. The production of oranges has already attained such proportions that the growers are obliged to seek markets abroad for the disposal of their produce, as the demand, both in New South Wales and the adjacent colonies, is in some seasons exceeded by the supply. Efforts have been made of late to open up a market in England, as the fruit can be delivered in London at a time when the supply of oranges from Spain and other countries of the northern hemisphere has ceased.

State of orange growing in 1879.

The statistics relative to this branch of the agricultural industry are only available from the year 1879, when the area under oranges and lemons was 4,287 acres, which last year had increased to 9,804 acres. Of the area just given 2,615 acres are planted with trees not yet in fruit, while the yield from the remaining area amounted to 11,074,392 dozen oranges and lemons, or rather more than 1,540 dozen per acre. It is usually estimated that over 3,000 dozen per acre can be obtained in an average season from fair-sized trees in full bearing; it is therefore probable that the figures for 1889 included the return from a considerable number of young trees. The following shows the state of the industry in each year since 1879. The number of orangeries during 1889–90 was 1,173, the average area being 8·4 acres.

Area of Orangeries.

Year ended 31 March.	Area of Orangeries.	Year ended 31 March.	Area of Orangeries.
	Acres.		Acres.
1879	4,287	1885	6,911
1880	5,106	1886	7,733
1881	5,939	1887	7,920
1882	6,301	1888	8,875
1883	6,716	1889	10,851
1884	7,268	1890	9,804

ORCHARDS AND GARDENS.

Large quantity of fruit imported.

During the last ten years there has been very little alteration in the area under gardens and orchards. The cultivation of other varieties of fruit besides oranges and grapes appears to be retrogressing, instead of sharing in the progress observable in almost all other branches of agriculture. Yet the Colony consumes annually very large quantities of imported fruit, which could be successfully grown within its own limits. Leaving out of consideration the large importation of tropical fruit from Fiji, New Caledonia, and Queensland, some of which might be cultivated in the sub-tropical portion of New South Wales, the importation of other fruit is very considerable. Thus in 1889, Tasmania, New Zealand, Victoria, Queensland, South Australia, and the United States, supplied New South Wales with green fruit to the value of £174,679, while other green fruit, mostly the produce of Fiji and subtropical countries, was imported to the amount of £54,325. The importation of dried and candied fruit during the same period amounted to £81,675, and that of nuts to £10,326. New South Wales is therefore dependent on the outside world, to the extent of £321,000 for fruit, most of which could be advantageously cultivated within its own territory.

Number of orchards.

The number of orchards during 1889-90 was 5,303, and the area 18,867 acres, so that the average area of each was 3·56 acres.

Orangeries and Orchards.

With regard to the figures representing the area of the orangeries and orchards, it should be understood that in many instances part of a holding is devoted to the growth of oranges and lemons, and part to the cultivation of other fruits, so that it is difficult sometimes to tell under which head the holding should be classed. It is believed that the area under oranges and lemons in 1890 was quite equal to that of the previous year, though the figures of 1889 appear unduly large owing to the inclusion of areas which have this year been classed as orchards.

AGRICULTURAL IMPLEMENTS.

Agricultural implements.

A census of agricultural machines and other implements used in farming and allied pursuits was taken in 1889, which showed the following as the number of the principal kinds used throughout the Colony :—

	Number.		Number.
Bone mills	45		
Carts	50,696	Rollers (other than wood)	868
Chaff-cutters	11,949	Seed-sowers and drills	1,036
Cheese-presses	985	Scarifiers or Scufflers	8,005
Corn-crushers	3,280	Sheep-shearing machines	1,627
Corn-shellers	7,433	Steam-engines	1,237
Cream-separators	395	Stills	96
Harrows	33,583	Strippers	2,910
Hay-making machines	361	Stump-extractors	438
Hay-presses	1,062	Threshing machines	536
Hay-rakes (horse)	3,551	Turnip-cutters	91
Mowing-machines	4,856	Windmills	555
Ploughs	44,661	Wine-presses	399
Ploughs (steam)	270	Winnowing-machines	3,098
Reapers	1,516	Wool-presses	2,995
Reapers and binders	1,605	Wool-washing machines	146

The value of the implements and other articles mentioned in the above list is approximately £1,700,000, or about 36s. per acre of land cultivated. The sheep-shearing machines enumerated above were in use on ninety-nine stations throughout the Colony.

PART XII.

Stock.

THE rapid settlement of the Colony has, in a great measure, been due to the fitness of its soil, vegetation, and climate, for the successful rearing of the principal species of stock which supply the wants of civilized men, and so largely contribute to the wealth of nations. For many years it was believed that a considerable part of Australia was quite unsuited for stock, and this opinion was fostered by the accounts of the earlier explorers, who reported that the interior of the continent was a vast desert. These apprehensions were soon dispelled, and the apparent difficulties offered to the successful rearing of stock disappeared before the energy of the colonists. One thing particularly favoured the settlers; though the number of native animals was very considerable, comprising chiefly marsupials of little commercial utility, there happily existed no large species of carnivora which could seriously interfere with the increase in the flocks.

Humble beginnings of stock breeding.

The beginnings of pastoral enterprise in the Colony were very humble. The whole stock of the community which accompanied Captain Phillip comprised only 1 bull, 4 cows, 1 calf, 1 stallion, 3 mares, 3 foals, 29 sheep, 12 pigs, and a few goats; and although the whole of the present flocks and herds of Australia have not sprung from these animals alone, it will be seen on how small a scale the business of stock-raising was first attempted. No systematic record of the arrival of stock seems to have been kept in the early days of settlement, but it appears that in the period between Governor Phillip's landing and the year 1800 there were some slight importations, chiefly of sheep from India. In 1803 the number of sheep in the Colony was set down at 10,157. In 1825, thirty-seven years after the establishment of the Colony, there were in New South Wales 6,142 horses, 134,519 cattle, 237,622 sheep, and 39,006 pigs. In 1842 there were 56,585 horses, 897,219

Separation of Victoria.

cattle, 4,804,946 sheep, and 46,086 pigs. As soon as the produce of stock began to exceed the demand for food, the increase in number became very rapid, and, at the separation of Victoria, the stock of the Colony numbered 13,059,324 sheep, 1,738,965 cattle, 132,437 horses, and 61,631 pigs.

Separation of Queensland

The severance of Victoria, then the fairest province of the mother Colony, involved a loss of 6,589,923 sheep, 390,923 cattle, 20,086 horses, and 7,372 pigs; so that in 1851 the flocks of New South Wales numbered 6,469,401 sheep, 1,348,042 cattle, 112,351 horses, and 54,259 pigs. After the separation of Queensland the numbers of each kind of live stock within the existing boundaries of the Colony were 6,119,163 sheep, 2,408,586 cattle, 251,497 horses, and 180,662 pigs; in the following year the numbers showed a considerable decline, both from the effects of the season, and from the large demand which arose for stock for the stations of the new Colony; and in 1861 the figures were, 5,615,054 sheep, 2,271,923 cattle, 233,220 horses, and 146,091 pigs. From the numbers just given, the sheep had, at the beginning of 1890, increased to 50,106,768, the cattle had declined to 1,741,592, the horses had increased to 430,777, and the pigs to 238,585.

SHEEP.

Land suited for pastoral pursuits.

The suitability of the land discovered in New South Wales for pastoral pursuits was undoubtedly the means of leading the infant Colony to take its first step on the path of commercial progress; and it is not a little surprising at this distance of time how steadily some of the settlers, in the face of the almost insurmountable difficulty of transport which existed a century ago, availed themselves of the opportunities at their disposal. The importation of valuable specimens of sheep from England or the Cape of Good Hope, prior to the introduction of steam, was at all times attended with great risk, and it frequently happened that many of these costly animals died during the tedious voyage. These enterprises were, however, on the whole successful, and thus the flocks and herds of the colonists surely, if at first slowly, increased and multiplied.

Captain Macarthur promotes wool-growing.

By the year 1795, Captain Macarthur, one of the first promoters of sheep-breeding in New South Wales, had accumulated a flock of 1,000, which were held in great estimation, and gradually increased in value, until, as recorded by an entry in his journal ten years later, the market price of a fat wether had risen to £5. Not satisfied with the natural increase of his flocks, Macarthur sought to improve the quality of his fleeces, by which means he could see opening before him the promise of great wealth, and the prospect of establishing important commercial relations with Great Britain. With these ends in view, he procured from the Cape of Good Hope, at great cost and trouble, a number of superior rams and ewes. A happy circumstance occurred which favoured his enterprise; for he had the good fortune to secure possession of three rams and five ewes of very fine Spanish breed, which had been presented by the King of Spain to the Dutch Government. These animals, out of a total of twenty-nine purchased at the Cape, arrived in Sydney in 1797, and were disposed of to various breeders. With the exception of Macarthur, however, those who had secured sheep of the superior breed made no attempt to follow up the advantage, being probably amply satisfied with the larger gains from the sale of an increased number of animals. Macarthur, on the other hand, thought little of present profits, and still less of breeding entirely for human consumption. He attentively watched the results of crossing his imported rams with the old stock, and by systematically selecting the finer ewes which were the offspring for further mingling with the sires, he gradually improved the strain, and in a few years obtained fleeces of very fine texture which met with the ready appreciation of English manufacturers.

Improvement to the flocks.

Spain formerly chief wool-grower.

Prior to the present century the production of the finest wool had been confined chiefly to Spain, and woollen manufactures were necessarily carried on in England upon a somewhat limited scale, which was not likely to improve in face of certain restrictions the operatives endeavoured to place upon their em-

Trade opened with Great Britain.

ployers. These men, in support of their contention that the woollen trade could not be expanded, on account of the limited supply of the raw material, argued that fine wool was obtainable only in Spain; and it was at this favourable period that Macarthur arrived in England with specimens of the wool obtained from his finest sheep, conclusively proving the capabilities of Australia as a wool-producing country. In this way he opened up a small trade with English manufacturers, which, as Australian wool rose in public estimation, gradually increased until it reached its present enormous dimensions. During his visit to England, Macarthur purchased an additional stock of ten rams and ewes of the noted Spanish breed, nearly equal in quality to those which in 1797 he had procured from the Cape of Good Hope. That these animals were the finest obtainable in Europe may be gathered from the fact they also had formed portion of a present from the King of Spain to George III. Thus did Macarthur, after his return to the Colony, patiently continue for many years the process of selection, with such success, that in 1858, when his flock was finally dispersed, it was estimated that his superior ewes numbered fully 1,000. Victoria secured a considerable portion of Macarthur's flock, and the process of breeding proceeded simultaneously in that and other adjacent colonies.

Importation of sheep.

Texture of wool.

Although the increase in the numbers of the finer sheep was satisfactory, the importation of superior stock was not discontinued, and the stock of the colonies was augmented in 1823 and 1825 by the further introduction of Spanish sheep. Sheep-breeding was about this period commenced in the Mudgee district, and the climate of that region has produced a still more favourable result upon the quality of the fleeces than any other part of the Colony, and it is thence that the finest merinos are now procured. As might have been anticipated, the climate of Australia has in some respects changed the character of the Spanish fleece. The wool has become softer and more elastic, and while having diminished in density it has increased in length, so that the weight of the fleece has only slightly altered. The quality of the wool has thus on the whole improved under the beneficial influence of the climate, and if no further enhancement in its value can be reasonably hoped for, there is at least every reason to believe that Australian wool will maintain its present high standard of excellence.

Number of sheep in New South Wales.

The following table, showing the numbers at the close of each year since the separation of Queensland, illustrates the progress of sheep-breeding :—

Progress of Sheep-breeding.

Year.	Number.	Year.	Number.	Year.	Number.
1860	6,119,163	1870	16,308,585	1880	35,398,121
1861	5,615,054	1871	16,278,697	1881	36,591,946
1862	6,145,651	1872	17,566,048	1882	36,114,814
1863	7,790,969	1873	18,990,595	1883	37,915,510
1864	8,271,520	1874	22,797,416	1884	31,660,321
1865	8,132,511	1875	25,353,924	1885	37,820,906
1866	11,562,155	1876	25,269,755	1886	39,169,304
1867	13,909,574	1877	21,521,662	1887	46,965,152
1868	15,080,625	1878	25,479,484	1888	46,503,469
1869	14,989,923	1879	30,062,910	1889	50,106,768

Annual increase

The ratio of annual increase for the whole period is 7·5 per cent. Divided into three periods the ratios are—

1861–70 annual increase 12·6 per cent.
1870–80 ,, ,, 8·1 ,,
1880–89 ,, ,, 3·9 ,,

Natural law of increase.

The operation of the natural law regulating the increase of species, viz.—that the ratio of increase is inversely as the increase in the number of individuals—is only partially observable in these figures, though the tendency of the rate of increase to decline as the numbers advance is clear enough.

Causes modifying rate of increase.

It is not possible to estimate the actual loss of sheep from rought and failure of grass, but an approximation can be made s to the number of stock in the Colony less than would have een the case had the seasons all been propitious. Thus the ollowing table shows the expected increase of sheep after all auses of natural decrease are allowed for, the actual increase or decrease during each year, and the loss which may be attributable to the season. Under this last head are included not only the sheep which actually died, but also the expected increase from lambing which was not realized. Out of the fifteen years over which the information extends seven years only showed no loss, or loss so slight as to be inappreciable. On the other hand, five seasons of opposite character were experienced in which not only was there no increase, but an actual decrease, on the numbers of the previous year, ranging from 84,000 in 1876 to 6,255,000 in 1884. The loss on the year last named reached the enormous total of 8,138,000, a number larger even than the total of the flocks in some of the colonies of the group.

Loss of Sheep through Drought and kindred causes.

Year.	Expected increase, allowing for all causes of natural decrease.	Actual increase or decrease.	Loss through Seasons.
1874	3,807,000	3,807,000	†
1875	2,556,000	2,556,000	†
1876	1,915,000	* 84,000	1,999,000
1877	1,802,000	* 3,748,000	5,550,000
1878	3,958,000	3,958,000	†
1879	4,583,000	4,583,000	†
1880	5,335,000	5,335 000	†
1881	2,947,000	1,194,000	1,753,000
1882	1,797,000	* 477,000	2,274,000
1883	3,193,000	1,801,000	1,392,000
1884	1,883,000	* 6,255,000	8,138,000
1885	6,160,000	6,160,000	†
1886	3,409,000	1,348,000	2,061,000
1887	7,796,000	7,796,000	†
1888	2,435,000	* 462,000	2,897,000
1889	5,339,000	3,603,000	1,736,000

* Decrease during the year. † No loss, or, if any, very slight.

Requirements of other colonies check increase.

After allowing for the causes which naturally impede the increase of the flocks of the Colony, the demands of the slaughter-yard, the requirements of the neighbouring colonies, and the deaths occurring from other causes than drought, it will be found that the rate of increase in any year should be about 20 per cent., so that the flocks of the Colony would increase two-fold in about four years. Actual experience shows that such rate of increase was only approached once since the year 1861. During the period of five years from 1861 to 1866 there was a two-fold increase; the flocks of the Colony were again doubled in the eight years from 1866 to 1874 and in the thirteen years from 1874 to 1887. How many sheep could be sustained by the Colony under a system of artificial feeding and watering may hereafter become a question of national interest, but it is abundantly plain that even with a continuation of fair seasons it would be impossible, under the present mode of depasturing stock, for the Colony to support for any number of years an increase of sheep similar to the record of 1887, as in four years' time the flocks would number 100,000,000, a total more than now found in all the colonies.

Export and import of sheep.

The export and import of sheep during the ten years, 1880-1889, is shown in the following table :—

Year.	Exported.	Imported.	Year.	Exported.	Imported.
1880	1,147,552	81,742	1885	1,237,155	1,134,439
1881	1,068,362	198,329	1886	1,247,514	288,225
1882	856,190	207,538	1887	1,218,504	864,313
1883	1,006,227	205,558	1888	2,327,406	254,018
1884	1,942,204	404,371	1889	1,217,325	832,565

Local demand formerly small.

The local demand for sheep for consumption was, until recent years, so small compared with the supply as not to appreciably affect the increase of the flocks of the Colony. Such, however, is not now the case, and the annual demand for slaughtering purposes is about 6 per cent. of the number of sheep depastured, and is, therefore, almost equal to half the annual cast. The question of the supply of sheep in the light of the possible demands of the future is dealt with elsewhere, and it will be seen that, enormous as are the numbers of stock in this and the neighbouring colonies, every year reduces the margin between the supply and demand.

Stock-carrying capacity of Colony.

The stock-carrying capabilities of the Colony are very difficult to estimate, as by far the greater portion of the country is yet in its natural state. Improvements, such as a better system of water conservation and irrigation, an intelligent extension of the salt-bush, cotton-bush, and other drought-resisting shrubs and natural grasses, and the cultivation of artificial fodder, are gradually being effected, and will indefinitely extend the capacity of the Colony for supporting stock of all descriptions.

Number of sheep in each colony.

The following table gives the number of sheep compared with the respective areas of the Australasian colonies, and shows the progress made by each in sheep farming:—

Colony.	Area in acres.	No. of sheep.	No. of acres per sheep.	Proportion of total number depastured in each colony.
New South Wales...	195,882,150	50,106,768	3·91	49·48
Victoria	56,245,760	10,882,231	5·17	10·75
Queensland	427,663,360	14,470,095	29·55	14·29
South Australia... ..	578,192,000	6,386,617	90·53	6·30
Western Australia...	624,588,800	2,366,681	263·91	2·34
Tasmania	16,778,000	1,551,429	10·81	1·53
New Zealand *	66,710,400	15,503,263	4·30	15·31
Total	1,966,060,470	101,267,084	19·41	100·00

* New Zealand, 1888; theother Colonies, 1889.

Colony stands first as sheep-breeder.

It will be seen that New South Wales stands first of all the colonies as a sheep-breeding country, both as regards the number of its flocks, and the number of sheep depastured per unit of area. But whilst Victoria has nearly reached the limit of its natural capabilities in this particular direction, a considerable proportion of its area being now devoted to agriculture, New South Wales has not yet approached these limits. In Queensland, as in South Australia, sheep-breeding does not absorb the attention of pastoralists to the same extent that it does in New South Wales. The former colony is more adapted to the breeding of cattle; whilst in the southern and more settled districts of South Australia greater attention is paid to the cultivation of cereals, its northern territory, like that of Queensland, being more adapted by nature to the breeding of cattle and horses. Western Australia is at present in the early stage of its colonisation; much of its area is still unknown, and it is therefore impossible to estimate its future as a sheep-breeding country. It may, however, be surmised that the southern portion of its immense territory will, in time to come, be stocked with sheep, whilst the northern portion will probably be found more suitable for the breeding of cattle and horses, on account of its resemblance to portions of Queensland and the northern territory of South Australia situated under the same latitude. It was thought at one time that cattle-breeding would occupy a position in New South Wales equal to that of sheep-breeding, but experience has shown that the general climatic conditions are more favourable to sheep than to cattle, and the Colony is probably destined to remain, as it now is, the great sheep-breeding centre of Australia.

Certain colonies adapted for cattle.

Country not all fitted for sheep.

The different degrees of success attending sheep farming in different parts of the country has long since directed attention to the fact that each part of Australia is not equally fitted for the production of fine wools. New South Wales may be divided climatically into four zones:—(1) The coast country extending from the seaboard to the main range, the breadth of which varies from 20 to 100 miles; (2) the table-land districts on the summit of the range; (3) the upper part of the western slopes; and (4) the interior, or "salt-bush country."

Seaboard not suited to merino.

The climate of the eastern seaboard for a considerable distance inland is too moist, and a large portion of it too poor, for the adequate sustenance of merinos, but it is probable that the coarser breeds of sheep would not deteriorate through the limited food supply and the rugged nature of the country. On the Hunter and other northern rivers, and in the southern coast districts, where the soil is very rich, dairy-farming and agriculture are the leading, and, no doubt, the most profitable, industries. Sheep-breeding is carried on to some extent in the regions towards the summit of the coast range; but, as in the case of the country near the sea, the soil as a rule is unfavourable to sheep. On crossing the coast range, however, the contrast between the aspect of the country just entered, and that left behind, is very striking. Here the grazing and wool-growing capabilities are at once apparent, and further to the westward a still greater improvement is visible.

Riverine country.

In the abundant pastures of the Riverine districts the wool is less fine than in the country immediately west of the table-lands, but the fleeces are generally sound and heavy. Further in the salt-bush country the wool suffers both in the weight of the fleece and in its quality; but the country is fattening, and the stock are generally more healthy than those nearer the sea. In the country on the further side of the Darling the great summer heat is adverse to the production of heavy fleeces; but even here a fair class of wool is produced, as the stock-owners are constantly introducing fresh blood, and so counteracting the tendency towards the degeneration of the breed of sheep which might otherwise ensue.

Importation of stud sheep.

The importation of stud sheep from foreign countries, notably France, Germany, and America, which was continued for many years after the superfine quality of Australian wool had been established in the markets of the world, practically ceased even before importation was legally prohibited; for it had become apparent that the fleece, instead of showing signs of deterioration under the influence of the climate, had, on the whole, a tendency to improve. The introduction of sheep and cattle into New South Wales was forbidden for many years, owing entirely to the fear of the stock-owners that their herds would be contaminated by scab and other diseases prevalent in European flocks; but these restrictions were removed at the beginning of the year 1888, and 143 pure bred sheep, comprising 87 American merino, 5 German merino, 4 English South Downs, 20 Shropshire Downs, and 27 Lincolns, arrived in 1889, in addition to 4,166 stud sheep from other parts of Australia.

Superiority of Australian wool.

It is now generally admitted that as far as the fleece is concerned the Australian merino has little to gain by any further admixture of European or American blood, but it is equally admitted that there is room for improvement in the physique of the animal. To produce a larger carcase, without interfering with the quality of the fleece, many experiments have been made, but without much success, and it has been found that the crossing of noted breeds of English rams with Australian ewes has invariably resulted, after a generation or two, in a deterioration of the merino. The breeding of sheep for consumption, and for the sake of the wool, has, therefore, developed naturally into two distinct fields of industry. It may here be mentioned that the carcass of the ordinary Australian merino when dressed averages about 46½ lb., whereas dressed carcases of the Lincoln or Leicester breed would average 57 to 60 lb.

Breeds of sheep.

The various breeds of sheep in the Colony are the Merino, Lincoln, Leicester, Downs, and Romney Marsh, and crosses of the long woolled breeds, principally with the merino. In 1889–90 the respective numbers of merino and long-woolled sheep and cross-breeds, stood thus :—

Merino	48,959,341
Long-woolled sheep	452,574
Cross-breeds	694,853
Total	50,106,768

Subdivided as per following table :—

MERINO.

Combing.

Sheep.	Rams.	Ewes.	Wethers.	Lambs.	Total.	
			Superfine.			
Pure and stud	54,572	654,007	169,484	299,429	1,177,492	
Ordinary	83,797	2,305,976	1,587,037	1,236,201	5,213,011	6,390,503
			Medium.			
Pure and stud	87,162	1,377,815	610,411	774,379	2,849,767	
Ordinary	158,191	6,349,386	3,549,476	3,163,657	13,220,710	16,070,477
			Strong.			
Pure and stud	56,696	1,256,319	678,609	830,203	2,821,827	
Ordinary	100,710	4,489,861	2,590,877	2,181,377	9,362,825	12,184,652
Total, *Combing*					....	34,645,632
			Clothing.			
			Superfine.			
Pure and stud	15,787	282,440	162,032	174,679	634,938	
Ordinary	27,674	755,318	528,723	400,184	1,711,899	2,346,837
			Medium.			
Pure and stud	27,167	370,754	211,899	232,906	842,726	
Ordinary	77,485	3,581,404	1,695,649	1,574,853	6,929,391	7,772,117
			Strong.			
Pure and stud	26,214	485,405	237,713	298,014	1,047,346	
Ordinary	42,947	1,319,427	1,067,403	717,632	3,147,409	4,194,755
Total, *Clothing*					....	14,313,709
Total number of MERINO SHEEP......					....	48,959,341

LONG-WOOLLED SHEEP.

Sheep.	Rams.	Ewes.	Wethers.	Lambs.	Total.	
			Lincoln.			
Pure and stud	3,247	33,696	27,802	24,302	89,047	
Ordinary	5,767	61,553	48,532	45,394	159,246	
Total					....	248,293
			Leicester.			
Pure and stud	2,771	23,607	18,004	15,578	59,960	
Ordinary	2,320	41,960	44,450	27,993	116,723	
Total					....	176,683
			Downs.			
Pure and stud	484	3,910	2,437	2,855	9,686	
Ordinary	645	6,881	4,624	4,312	16,462	
Total					....	26,148
			Romney Marsh.			
Pure and stud	110	267	90	87	554	
Ordinary	......	600	296	......	896	
Total					....	1,450
Total number, LONG-WOOLLED SHEEP					....	452,574
			CROSSES—Long-woolled with Merino principally.			
Crosses.........	4,567	246,520	266,108	117,658	694,853	694,853
Grand total					....	50,106,768

The sexes and classes of sheep were estimated as follows:—

Rams	778,313
Ewes	23,647,106
Wethers	13,501,656
Lambs	12,179,693
	50,106,768

necessity for using stock. The climate of New South Wales admits of stock of all kinds being left in the open air, and there is no necessity for housing them during the winter months. The sheep are either kept in addocks or under the care of shepherds, though on some stations hey are both shepherded and paddocked. During 1889 there ere :—

Paddocked	48,617,848
Shepherded	918,362
Paddocked and shepherded	570,558
	50,106,768

Paddocking system.

The advantages of the paddocking system have been stated as follows:—The country will carry one-third more sheep; the wool will be longer and sounder, and the fleece as a whole one-third better; the feed will be cleaner and less liable to grass-seed; the lambing on the average of years will be better; the sheep will increase in size, they will live longer and continue longer profitable; they will be freer from foot-rot and other diseases; the expense of working the station will be less than a quarter of what it would be if the sheep were shepherded; and finally, the owner will be able to devote the principal part of his time to improving his sheep, instead of spending it in attempting to manage a lot of careless shepherds and hut-keepers.

Percentage of lambing.

The following table shows the percentage of lambing under both systems for the last sixteen years :—

Year.	Paddocked.	Shepherded.	Total.	Year.	Paddocked.	Shepherded.	Total.
1874	76	72	75	1882	59	51	58
1875	73	68	72	1883	64	57	63
1876	61	54	60	1884	55	51	55
1877	56	50	55	1885	79	64	78
1878	83	74	82	1886	66	62	66
1879	78	72	77	1887	78	69	78
1880	81	72	80	1888	55	40	55
1881	63	49	62	1889	64	54	64

The proportion of sheep shepherded to those paddocked is yearly growing less. In 1880 one-tenth of the lambs born were from shepherded ewes; in 1883 the proportion was one-eighth; in 1884 one-twelfth; in 1885 one-twentieth; in 1886 one-twenty-fourth; in 1887 one-thirty-sixth; and in 1889 one-fiftieth of the whole number.

WOOL.

The wool clip.

The amount of wool exported during the twelve years from 1878 to 1889 is shown below, the quantities representing the weight of clip if the sheep were shorn in the grease:—

Year.	Amount of Wool.	Year.	Amount of Wool.
	℔.		℔.
1878	141,560,140	1884	201,899,941
1879	149,293,186	1885	193,775,478
1880	181,766,451	1886	203,013,090
1881	161,740,362	1887	256,072,430
1882	171,019,915	1888	269,739,000
1883	216,681,214	1889	299,012,215

As the season for exporting wool does not wholly fall within the calendar year, the quantities of wool stated in the foregoing table for any year refer partly to that year, and partly to the previous one. The following table shows the total number of sheep shorn, and distinguishes those whose fleece was washed previous to shearing. It will be observed that there has been a marked tendency to shear in grease, owing no doubt to the fact that freights are now much lower than formerly. Besides, the price obtained for washed wool in excess of greasy is not commensurate with the cost of washing.

Number of Sheep shorn.

	Sheep				Lambs.	
Year.	In Grease.	H.-W. and Spout.	Creek-washed.	Scoured.	In Grease.	Washed.
1880	25,298,211	1,015,556	6,164,859	2,660,141	Not recorded.	
1881	29,485,675	398,800	2,415,714	739,592	3,129,995	155,939
1882	29,505,143	273,600	1,780,984	323,900	3,814,788	102,300
1883	30,075,145	317,375	2,156,874	149,468	4,833,437	83,241
1884	24,110,459	306,908	801,408	307,950	3,010,459	80,990
1885	28,324,595	38,000	642,424	267,250	4,113,383	42,584
1886	29,446,157	36,645	494,544	965,874	5,535,350	62,100
1887	31,082,201	90,000	647,945	554,687	8,135,458	123,745
1888	35,426,832	....	416,779	875,280	6,053,509	23,756
1889	36,553,856	80,000	475,254	1,446,105	6,790,889	74,693

Weight of fleece.

The average weight of fleece obtained since 1880 is given in the table herewith, followed by the estimated amount of the clip for the same period. The heavy fleece realized in late years from hot water and spout-washed sheep arose probably from the circumstance that the sheep so treated were few in number, and of a finer class than ordinary.

Average Weight of Fleeces.

	Sheep.								Lambs.			
Year.	In Grease.		H.-W. and Spout.		Creek-washed.		Scoured.		In Grease.		Washed.	
	lb.	oz.	lb.	oz.	lb.	oz.	lb.	oz.	lb.	oz.	lb.	oz.
1880	5	7	2	14	3	3¾	2	9½	Not recorded.			
1881	5	0	2	12¼	2	12½	2	8½	2	1	1	8$\frac{1}{16}$
1882	5	0	3	0	2	14	2	9½	1	14½	1	4⅗
1883	5	2	3	0	3	0	2	12	1	14	1	6
1884	5	0	3	3	2	15	2	14	1	13	1	6
1885	5	7½	3	4	3	2	3	0	1	12	1	8
1886	5	5⅓	3	6	3	0¼	2	14	1	9¼	1	3½
1887	5	9	3	12	3	1½	2	14	1	12½	1	5
1888	5	6½	....		3	1⅓	2	9½	1	11	1	7
1889	5	13½	4	2	3	3	2	14	1	11½	1	9

Estimated Amount of Clip.

Year.	In Grease.	H.-W. and Spout.	Creek-washed.	Scoured.	In Grease.	Washed.
1880	122,559,023	*29,758,918	....	....	....	......
1881	147,428,375	1,102,932	6,718,704	1,858,225	6,445,614	234,882
1882	147,525,715	820,800	5,120,329	840,115	7,271,940	131,391
1883	154,135,118	952,125	6,470,622	411,037	9,062,695	114,456
1884	120,552,295	978,269	2,354,136	885,357	5,456,628	111,361
1885	154,900,128	123,500	2,007,575	801,750	7,198,420	63,876
1886	157,046,170	123,677	1,491,359	2,776,888	8,719,693	75,684
1887	172,894,743	337,500	1,997,830	1,594,725	14,580,347	162,415
1888	191,526,310	....	1,285,068	2,270,257	10,215,296	34,149
1889	213,611,596	330,000	1,514,872	4,157,552	11,671,840	116,707

* For 1880 returns are only given for wool "Greasy," and "Washed."

Wool sent to other Colonies.

Much of the wool produced in New South Wales is sent to Melbourne and Adelaide for shipment to Europe, as will be seen from the following table:—

Quantity of New South Wales Wool Exported.

Year.	N.S. Wales ports.	Victorian ports.	S. Australian ports.	Queensland ports.	Total.
	lb.	lb.	lb.	lb.	lb.
1877	65,024,631	54,196,363	2,281,048	650,559	122,152,601
1878	68,949,633	55,496,732	16,785,661	328,114	141,560,140
1879	81,629,754	56,604,967	10,472,908	585,557	149,293,186
1880	100,506,949	65,892,226	11,927,018	440,258	178,766,451
1881	97,049,455	58,568,909	5,673,787	448,211	161,740,362
1882	96,927,768	52,259,856	21,257,679	574,612	171,019,915
1883	146,450,042	53,374,727	16,129,452	726,993	216,681,214
1884	133,570,339	46,239,608	21,658,427	431,567	201,899,941
1885	138,581,706	46,206,250	8,583,408	404,114	193,775,478
1886	128,299,245	50,229,330	24,170,392	314,123	203,013,090
1887	171,396,329	61,288,355	23,267,181	120,565	256,072,430
1888	201,630,000	61,541,000	6,540,000	28,000	269,739,000
1889	194,438,113	77,601,605	26,845,693	126,804	299,012,215

The weights given above are on the assumption that all the wool was shipped in the grease.

The proportion of the total clip reaching New South Wales ports compared with what was despatched by way of Melbourne, Adelaide, and Brisbane was:—

Year.	Percentage shipped from New South Wales ports.	Percentage shipped from other ports.
1877	53·23	46·77
1878	48·71	51·29
1879	54·67	45·33
1880	56·22	43·78
1881	60·00	40·00
1882	56·67	43·33
1883	67·59	32·41
1884	66·15	33·85
1885	71·52	28·48
1886	63·14	36·86
1887	66·90	33·10
1888	74·75	25·25
1889	65·03	34·97

Weight and size of bales.

Wool is put up at the stations in packs which weigh from 10 lb. to 12 lb. each. The bales are usually 4 ft. 6 in. or 5 ft. 3 in. i length, and 2 ft. 2 in. in breadth and depth, and weigh whe packed about 450 lb.

VALUE OF THE WOOL CLIP.

Wool the most important export.

The wool clip of Australasia is its most important item of production, and it may be said that the prosperity of the colonies in a large measure depends upon the state of the wool market.

The following table summarises the state of the export trade of New South Wales wool during the period 1860–1889, and illustrates the growth of that important industry during thirty years; whilst, at the same time, the fluctuations in the value of the clip may be easily followed. The weights given represent the actual exports, washed and greasy wool being taken together:—

Weight and Value of Wool Exported.

Year.	Quantity.	Value.	Year.	Quantity.	Value.
	lb.	£		lb.	£
1860	14,962,362	1,454,289	1875	87,534,280	5,651,643
1861	18,171,209	1,768,978	1876	100,736,330	5,565,173
1862	20,988,393	1,801,186	1877	102,150,246	5,256,038
1863	15,842,520	1,316,520	1878	111,833,017	5,723,316
1864	25,827,917	2,294,615	1879	123,710,450	6,491,198
1865	29,858,791	2,283,560	1880	154,871,832	8,040,625
1866	36,980,685	2,830,348	1881	139,601,506	7,149,787
1867	21,708,902	1,711,322	1882	146,221,182	7,433,091
1868	25,721,632	1,879,751	1883	188,161,710	9,598,761
1869	51,269,672	3,162,522	1884	173,986,303	8,953,100
1870	47,440,610	2,741,141	1885	168,151,659	7,246,642
1871	65,611,953	4,748,160	1886	173,985,640	7,028,596
1872	50,233,453	3,342,900	1887	216,450,342	8,911,155
1873	66,169,355	4,273,380	1888	235,848,944	9,089,776
1874	75,156,924	5,010,125	1889	261,853,484	10,620,636

Effect of price of wool on national prosperity.

An examination of the preceding figures at once shows how greatly the fluctuations in the value of the staple article of export affect the national prosperity. The exports for the years 1884 and 1886, for instance, which may be taken as practically equal in quantity, represented a value of £8,953,100 in the former year, whilst in the latter year the value was reduced to £7,028,596. In this particular case the figures exhibit a double loss—in the quantity, and in the value of the produce exported. In 1884 the export per capita was equivalent to 229·2 ℔. of wool weighed in the grease. Had the quantity of wool exported in 1886 been in proportion to the increased population, the figures would have stood at 224,613,000 ℔., instead of 203,013,000 ℔. actually exported. Thus the loss suffered in quantity amounts to 21,600,000 ℔. The actual difference in value of the two clips against 1886 amounts to £1,924,504; but if to this sum be added the value of the quantity which the Colony failed to export in that year, it will be found that the proceeds of the export of wool in 1886 were actually shorter by £2,931,700 than would have been realised had the prices and yield of 1884 been maintained. Again, comparing 1883 with the past year, there was a difference in quantity in favour of 1889 of 82,331,000 ℔. of wool weighed in the grease, and had the prices of 1883 been obtained the value of the 1889 clip would have exceeded that of the former year by £3,647,184, whereas the excess was only £1,021,875. The transactions of 1889, though much more satisfactory than those of the preceding year, as regards quantity of clip, compare very unfavourably with 1883 in respect to the average price obtained.

Fluctuation in value.

The preceding table also shows that, although during the period under examination the value of wool has greatly fluctuated from one year to another, the tendency to a settled diminution of price is unfortunately too clearly discernible. In order to further illustrate the fluctuations in the value of this staple in the London market during the last ten years, the classification into scoured and greasy wool has been adhered to, and the following table will give an accurate idea of the average value realised for these two classes of wool during the last period of ten years. The values given were those ruling at the five principal sales of each year.

Average Value per lb. of New South Wales Merino Wool in the London Market.

Sales.	1880.		1881.		1882.		1883.		1884.	
	Scoured.	Greasy.	Scoured.	Greasy.	Scoured.	Greasy.	Scoured.	Greasy.	Scoured.	Greasy.
	d.	d.	d.	d.	d.	d.	d.	d.	d.	d.
1st Series	19	12½	18	11	18½	11	18	10	16½	9½
2nd ,, ...	19	14	18½	11½	19	11	18	10	16½	9½
3rd ,, ...	19	12	18½	11½	19	10½	17	9½	16½	9½
4th ,, ...	19½	12	18	11	18½	10½	17½	9½	17	10
5th ,, ...	19½	12	18½	11	18½	10½	17½	10	16½	9½

Sales.	1885.		1886.		1887.		1888.		1889.	
	Scoured.	Greasy.	Scoured.	Greasy.	Scoured.	Greasy.	Scoured.	Greasy.	Scoured.	Greasy.
	d.	d.	d.	d.	d.	d.	d.	d.	d.	d.
1st Series	16	9	13	7½	16	9¾	14	8	15½	8½
2nd ,, ...	15½	8½	12	6½	15½	9¼	15	8½	16	9
3rd ,, ...	14½	7½	14½	8½	15¼	9	16	8½	16½	9½
4th ,, ...	13½	8	16½	10	14¾	8½	17½	9	17	10
5th ,, ...	13½	8	14	8½	14¾	8¼	17½	9½	17¾	10½

Maximum price obtained in 1880.

During the period covered by the foregoing table scoured Sydney-shipped wool fluctuated between a maximum of 19½d. per lb. and a minimum of 12d.; and greasy wool realized from 6½d. to 14d. The maximum prices for both descriptions of wool were realized during 1880, when the sales opened at 19d. and 12½d. per lb. respectively. Prices were fairly well maintained in 1881 and 1882, but they began to decline rapidly until the lowest market was reached in the early part of 1886, when scoured wool realized as little as 12d., and greasy 6½d. per lb. Since 1886 there has been a much better market for all kinds of wool, the average price of unwashed ranging between 8¼d. and 9¾d. in 1887, and 8½d. and 9½d. in 1888. The sales for 1890 also show an upward movement, the quotations at the close of June being 10d. per lb. for greasy, and 17d. for washed, wool, a very material advance on the figure of four years previously. The state of the wool market

Fluctuation of prices of wool.

may therefore be pronounced satisfactory, though a return to the extremely prosperous years of 1871 to 1875, when scoured Sydney-shipped wool obtained as much as 26½d., and greasy wool 15d. per lb., is very doubtful. With the present markets, however, there is no cause to view unfavourably the further extension of the production of wool in these colonies. In the ancient seats of wool growing, production is now stationary, and in some of the areas recently devoted to this industry, many causes, both climatic and otherwise, are likely to offer serious checks to its extension, while population and the consequent demand for wool is everywhere increasing. Nevertheless, it seems certain that unless fresh avenues are open to the wool industry in those countries where its use is comparatively unknown, it would be hopeless to expect a marked rise in the value of the article. The establishment of a market for Australian wool among the teeming populations of China and Japan, where the nature of the climate itself points out the value of wool as an article of clothing, is an object towards which the intelligent glance of the statesmen of Australia might well be directed.

China and Japan as a market for wool.

Combing and clothing wool.

It is a moot question as to whether the climate of New South Wales is more adapted to the production of a combing than a clothing wool. Although the former is looked upon with most favour by wool growers, it is generally recognised that there are very large tracts of country, especially where the salt-bush predominates, on which it is difficult to raise a good combing wool, and where it will probably be found more profitable by wool growers to give greater attention to the cultivation of the clothing variety.

Coarse-woolled sheep.

The breeding of coarse-woolled sheep, for the metropolitan market, is confined chiefly to the districts along the coast. The stock raised for this purpose are principally of the Leicester and Lincoln breeds, the latter being perhaps the greater favourite as a producer of fat lambs. There is no doubt but that, cultivated solely as an article of food, the coarse-woolled sheep is quite as profitable as the merino.

Wool clip of Australasia.

The quantity and value of wool, the produce of each of the various colonies of Australasia, grown during the year 1889, will be found hereunder:—

Colony.	Quantity— Wool in Grease.	Value.
	lb.	£
New South Wales	299,012,200	10,620,700
*Victoria	65,293,400	2,872,900
Queensland	69,617,600	2,680,100
*South Australia	38,702,900	1,379,300
Western Australia	9,501,700	395,900
Tasmania	6,241,000	283,200
New Zealand	116,648,200	3,976,400
Total	605,017,000	22,208,500

* Estimated.

Value of clip.

The estimated value of the wool grown in each colony may appear anomalous, when the weight of the clip only is considered; it must be borne in mind, however, in comparing the weight and value of this staple, that there is a wide margin of difference in the average value of the wool grown in one colony and that grown in another.

Consumption of wool.

The quantity of wool consumed by the manufacturing nations of the world amounted in 1887 to 1,872,000,000 lb. weighed in the grease. Of this quantity 930,000,000 lb., or scarcely half, was grown in the various countries engaged in manufacturing, and of the balance 530,000,000 lb., or about 56·8 per cent., was Australasian. The consumption of wool was thus distributed:—

	Home production.	Imports.	Total consumption.
	lb.	lb.	lb.
United Kingdom	134,000,000	258,000,000	392,000,000
Continental Europe	450,000,000	580,000,000	1,030,000,000
North America	346,000,000	104,000,000	450,000,000
Total	930,000,000	942,000,000	1,872,000,000

Principal wool consuming countries.

During recent years a considerable change has taken place in the markets available for the shipment of wool; the United Kingdom is no longer the first amongst wool-manufacturing countries, though its consumption of imported wool is still equal to 27·4 per cent. of the total wool imported. The relative positions of the United Kingdom, America, and continental Europe as wool consumers during several years may be gleaned from the following table:—

Year.	United Kingdom.	Continental Europe.	North America.	Grand Total.
	lb.	lb.	lb.	lb.
1878	352,000,000	905,000,000	259,000,000	1,516,000,000
1879	321,000,000	889,000,000	312,000,000	1,522,000,000
1880	370,000,000	882,000,000	381,000,000	1,633,000,000
1881	320,000,000	952,000,000	355,000,000	1,627,000,000
1882	357,000,000	969,000,000	385,000,000	1,711,000,000
1883	340,000,000	969,000,000	418,000,000	1,727,000,000
1884	381,000,000	1,017,000,000	422,000,000	1,820,000,000
1885	365,000,000	1,021,000,000	444,000,000	1,830,000,000
1886	418,000,000	1,033,000,000	460,000,000	1,911,000,000
1887	392,000,000	1,030,000,000	450,000,000	1,872,000,000

Wool-producing countries.

An exact estimate of the produce of the various countries of the world cannot be given, but sufficient information is obtainable from which the relative importance of the different producing areas may be determined for the year 1887–8.

Producing areas.	Sheep.	Production—Clean wool.
		lb.
Europe	187,000,000	400,000,000
Asia	37,000,000	100,000,000
Africa	29,000,000	58,000,000
North America	47,000,000	168,000,000
South America (excluding Brazil)	101,000,000	120,000,000
Australasia	96,480,000	307,000,000
	497,480,000	1,153,000,000

CATTLE.

Cattle breeding

Though still a most important industry, cattle-rearing does not now occupy so prominent a place as formerly. In 1861 the value of the horned cattle depastured in the Colony was about £7,000,000, while that of the sheep was not more than half this sum. In 1889 the relative positions of the two classes of stock had entirely changed; for, while the cattle were valued at £8,120,000, the sheep were worth £18,750,000, notwithstanding that in the interval cattle had considerably risen in value, and sheep had depreciated. The number of cattle returned during each year since 1861 is shown in the subjoined table, and it will be noticed how great has been the decline in the totals since 1875 :—

Number of cattle declining.

Year.	Number of cattle.	Year.	Number of cattle.
1861	2,271,923	1876	3,131,013
1862	2,620,383	1877	2,746,385
1863	2,032,522	1878	2,771,583
1864	1,924,119	1879	2,914,210
1865	1,961,905	1880	2,580,040
1866	1,771,809	1881	2,597,348
1867	1,728,427	1882	1,859,985
1868	1,761,411	1883	1,640,753
1869	1,795,904	1884	1,425,130
1870	2,195,096	1885	1,317,315
1871	2,014,888	1886	1,367,844
1872	2,287,660	1887	1,575,487
1873	2,794,327	1888	1,622,907
1874	2,856,699	1889	1,741,592
1875	3,134,086		

Substitution of sheep for cattle.

If the above figures be compared with the returns of sheep for the same period, it will be found that the change which has taken place in the class of stock has been most remarkable. It is very debatable whether the substitution of sheep for cattle will in the end prove advantageous to the State, though there does not appear to be any doubt that sheep-breeding is at present more profitable to the individual owner. The increase in the number of cattle depastured in the Colony during 1889 was 118,685; but since 1875 there has been a decrease of 1,392,494. It would seem from these figures that the lowest point in cattle-raising was reached in 1885, the result, no doubt, of continued bad seasons. Since then the improvement has been gradual, and even if small it may be taken as evidence of the disposition of the pastoralists in some parts of the Colony to revert to cattle breeding in place of sheep.

Loss from failure of water and grass.

An exact statement of the loss of cattle from failure of water and grass can only be made for about seven years, and of these years three showed an actual decrease on the figures of the previous year, the years 1887 and 1889, being the only ones of the series which could be considered favourable to stock. Estimating at the low figure of £5 a head, the loss in 1883 was equal to £1,670,500, and in 1884 to £1,398,500. Since the year last named the losses of the stockholders have not been so serious, and in 1887 and 1889 there was a surplus. The following statement shows the increase in the numbers of cattle which would have occurred had the seasons been favourable, and also the increase or decrease actually experienced :—

Loss of Horned Cattle through Drought and kindred causes.

Year.	Expected Increase, allowing for all causes of natural decrease.	Actual Increase or Decrease.	Loss through Seasons
	No.	No.	No.
1883	114,900	*219,200	334,100
1884	64,100	*215,600	279,700
1885	30,600	*107,800	138,400
1886	66,800	50,500	16,300
1887	207,600	207,600	†
1888	82,600	47,400	35,200
1889	118,700	118,700	†

* Decrease during the year.
† No loss, or if any any, very slight.

Principal breeds.

The principal breeds of cattle now in the Colony are the Durham or Shorthorns, Hereford, Devon, Ayrshire, Alderney, and crosses

Principal breeds of cattle in Colony.

from these various breeds. At the close of the year 1889 the numbers of each breed, as far as could be ascertained, were :—

Shorthorns—Pure and stud	46,099	
Ordinary	642,375	
		688,474
Hereford—Pure and stud	25,713	
Ordinary	206,270	
		231,983
Devon—Pure and stud	10,274	
Ordinary	54,043	
		64,317
Black-polled—Pure and stud	671	
Ordinary	972	
		1,643
Ayrshire—Pure and stud	2,620	
Ordinary	6,613	
		9,233
Others—Pure and stud	551	
Ordinary	464	
		1,015
Crosses—First	5,273	
Ordinary	739,654	
		744,927

The cross-breeds were estimated as follows :—

Shorthorn and Hereford	248,121
Shorthorn and Devon	86,476
Hereford and Devon	48,610
Shorthorn and black-polled	4,662
Ayrshire, &c., and shorthorn	4,132
Unrecognizable	352,926
	744,927

"Cast" of cattle.

The number of fat cattle which will be available for market during the year 1890 is estimated to be about 298,150 head. This number is certainly very high, if the produce of the herds of the Colony be alone considered. The cattle trade with Queensland is, however, very considerable, especially in store cattle sent to this Colony for fattening; these serve to swell the nominal cast of the herds of the Colony to the figures given above. If the produce of the Colony alone be reckoned, the cast for the year 1889 was 194,500 fat cattle, and the cast for 1890 will probably be 210,000 head.

Breed of cattle improving.

The breed of cattle throughout the Colony is steadily improving, a result due to the introduction of good stud stock, as well as the care exercised in selection. Cattle are for the most part kept in paddocks, and of the total number in the Colony 1,318,488 are paddocked, 250,214 are in open runs, and the remainder, 172,890, are depastured both ways.

Pure bred cattle imported.

During the year 1889, 2,097 pure bred cattle, 625 bulls and 1,472 cows, were imported, chiefly from the other colonies of the group. Importations from Europe and America were prohibited for many years, owing to the natural dread of the stock owners lest their herds should contract diseases which have devastated the cattle of other countries. The prohibition was removed in 1888, and cattle are now admitted after strict quarantine.

Cattle of the world.

Compared with the other countries of the world the importance of Australia is not so manifest in the case of cattle as in that of sheep. The following are the numbers of cattle estimated from the most recent returns available:—

Europe	97,000,000
Asia	70,000,000
Africa	4,000,000
North America	55,000,000
South America	58,000,000
Australasia	9,498,000
Total	293,498,000

MEAT SUPPLY.

Question of food supply.

The magnitude of the pastoral interests of Australia, and the existence of a large surplus of stock, have served to divert attention from the question of the permanence of that surplus. The matter is not one of merely abstract importance, but has a practical bearing on the question of the food supply of these colonies, as well as of the possibility of the continued export of meat to the markets of the Old World. In dealing with this question it will be necessary to consider not merely the resources of each province individually, but the resources of Australia as a whole. The advisability of so treating the stock of the colonies will be apparent. The constant crossing and recrossing of flocks and herds from one colony to another for breeding, fattening, or other purposes, entirely destroy the value of a set of figures relating to any one colony, as distinct from the whole group. This is especially the case in considering the important question of the cast, or percentage of stock available for market during each year. In a purely fattening country the cast will appear very high, and on breeding stations correspondingly low. A combination of all classes of runs will alone give true results, and this can only be obtained by considering the whole of Australia as if it were one run. In the following computations New Zealand and Tasmania have been excluded, as their interests as stock producers are entirely distinct from those of the continental colonies.

Rate of increas of population.

The people of Australia, in ordinary years, consume by far the larger part of the meat produced in the country, and even in the most abundant seasons the surplus exported forms but a small portion of the total quantity produced. The ratio at which population tends to increase is, therefore, an important element in this question. The population of the colonies increased at the rate of 3·15 per cent. for the ten years 1871–81, but the increase was much more rapid towards the close of this period than in the earlier years. Since 1881 the rate has slightly exceeded 3·9 per cent., and for the coming decade, which, as will hereafter appear, is a sufficiently long time to consider in dealing with the meat supply, the yearly increase of population may be taken as equal to this percentage. It is of course impossible to suppose that Australia will always be favoured with so large an addition to its population as 3·9 per cent. per annum represents, but it is equally impossible that the present rate of increase will suddenly fall off by the stoppage of the current of immigration which has so long been directed to these shores.

Consumption of meat.

Along with population must be considered the question of the consumption of meat. It is unfortunate that this can only be determined with exactitude for New South Wales and Victoria, estimate of any kind can be given for South Australia or West Australia. Taking the population of the three colonies for which statistics are available, the total consumption at the close of 1889 would be :—

	Population.	Sheep.	Cattle.
New South Wales...	1,122,000	× 1·73 = 1,941,060	× ·24 = 269,280
Victoria	1,118,077	× 2·05 = 2,292,058	× ·23 = 257,157
Queensland...........	406,590	× 2·00 = 813,180	× ·40 = 162,636
	2,646,667	5,046,298	689,073

Average Australian consumption.

The average consumption for these colonies is therefore, approximately, 1·9 sheep and 0·26 cattle. These figures may be safely adopted as the consumption per head of Australia, for whether South Australia or Western Australia consume more or less than above given, the average of Australia will not be sensibly affected.

At the middle of 1889 the population of the five continental colonies was 2,967,000, and on the basis of the figures just given their requirement for one year would be—

5,637,300 sheep,
771,400 cattle.

The increase of population was found to be 3·9 per cent. It, however, does not follow that the present high rate of consumption will be maintained, and that the demand will increase also at 3·9. The aggregation of population in large towns, where opportunities for diversifying food are numerous, tends to lessen the average meat consumption, and although a continuance of the present increase of population may naturally be expected, a continuance of the present average consumption can hardly be looked for. As an allowance on this score the increase of meat consumption will be taken in the following computations, not as 3·9, but as 3·75.

Comparative consumption of meat.

The use of meat as an article of diet is much more general in Australia than in other countries of which the statistics are available. The consumption of 1·9 sheep and ·26 cattle may be taken as equal to 264 lb., adding to this 12 lb. of pork, &c., the average yearly consumption of each inhabitant of Australia is 276 lb. The following statement gives the like information for the principal countries of the world, as stated by Mulhall:—

	lb. per inhabitant.
Great Britain	105
France	74
Germany	69
Russia	48
Austria	64
Italy	23
Spain	49
Belgium and Holland	69
Scandinavia	67
United States	120
Australia	276

In further discussing this question, it will be expedient to deal with the two classes of stock separately, for several important reasons, but chiefly because the surplus of beef is relatively much smaller than that of mutton,—and as will afterwards appear, the continuance of a surplus at all, is problematical. The various questions of cast, increase of stock, effect of droughts and disease, will therefore be separately treated for cattle and sheep.

Number of cattle in Australia.

The estimates made from time to time of the number of stock in Australia are naturally only approximate, but every year sees a nearer approach to the truth. It is probable no very great reliance can be placed upon the earlier figures given in some of the following tables, but as no deductions are founded on them alone, the question of their absolute correctness is not material. The following table gives the estimate of stock in Australia at the close of each year since 1862. The increase

rease per cent. for each year over its predecessor and the l average from the beginning of the period are also given.

ear.	Number of Cattle.	Increase or Decrease during the year.	Percentage of Increase or Decrease.	Percentage of Increase per annum since 1863.
....	3,853,688	....	....	....
....	3,696,278	*157,410	*4·08	*4·08
....	3,634,793	* 61,485	*1·66	*2·90
....	3,455,334	*179,459	*4·94	*3·70
....	3,487,535	32,201	0·93	*2·50
....	3,592,796	105,261	3·02	*1·40
....	3,648,586	55,790	1·55	*1·00
....	4,174,867	526,281	14·43	1·15
....	4,175,688	821	0·02	1·01
....	4,497,153	321,465	7·70	1·73
....	5,243,114	745,961	16·59	3·13
....	5,657,552	414,438	7·90	3·55
....	6,270,916	613,364	10·84	4·14
....	6,612,756	341,840	5·45	4·24
....	6,498,279	*114·477	*1·73	3·80
....	6,733,945	235,666	3·63	3·79
....	7,176,386	442,441	6·57	3·96
....	7,407,955	231,569	3·23	3·91
....	7,880,465	472,510	6·38	4·05
....	7,608,307	*272,158	*3·45	3·64
....	7,568,618	* 39,689	*0·52	3·43
....	7,440,075	*128,543	*1·69	3·18
....	7,230,891	*209,184	*2·81	2·90
....	7,138,103	* 92,788	*1·28	2·72
....	7,916,520	778,417	10·91	3·04
....	8,174,321	257,801	3·26	3·05

* Decrease.

Rate of increase in cattle.

ler present conditions the highest possible increase that ke place in the number of cattle is 15 per cent., but some ago, when the consumption was smaller, a point or so might have been reached. This rate would obtain if were only 4 per cent. of deaths from ordinary causes and from epidemics or droughts, and if the average of calves d 85 per cent. of the total breeding cows. Such a rate rease would be most extraordinary, since what may be d the natural losses can be set down at 4 per cent. for stock, 7 per cent. for bullocks and breeding cows, and possibly 10 per cent. for old cows. Besides this, the proportion of calves rarely rises above 72 per cent. The maximum percentage, as will be seen from the foregoing table, was reached in two years since 1863, viz., in 1870 and 1873, and in only two other years was the increase obtained over 10 per cent., while in nine years there was not only no increase, but an actual decrease. Taking the whole period which has elapsed since 1863 the average increase of cattle has been 3·05 per cent. per annum, a rate much slower than the increase of population.

[illegible]

From information gathered from various sources it would seem that even in good years the number of calves obtained from 100 breeders is not usually more than seventy-two, that is to say the number branded does not exceed the proportion given. In years of drought the calving has been as low as 45 per cent., while in fair years it would probably reach 67·5. By computation it is found that, assuming bullocks are drawn from the herd in their fifth year and cows in their eighth year, the number of breeding cows will be one-third of the total stock depastured. Practical experience gives the same result as theory indicates, and throughout Australia it has been found that however much the number of breeding cows may in any year be above or below one-third, there is always a tendency for the numbers to be adjusted to the proportion stated, if the stock available for market be drawn off.

From the particulars just given, it would appear that in fair seasons the increase of cattle by births will be about 22·5 per cent., that is one-third of 67·5. The loss of stock in fair years, from what may be for convenience called natural deaths, is about 3 per cent., and the requirements of the slaughter-yard has been ascertained to be about ·26 cattle per inhabitant. These data enable an approximation to be made of the losses sustained from droughts and epidemics. It will be understood that when the calving falls below 67·5 per cent. the deficiency will be counted as a loss due to the season, just the same as if the calves died after branding. In the following table the estimated loss is given for each year since 1863 :—

Loss of Cattle by droughts and epidemics.

1864	516,000	1877	770,000
1865	375,000	1878	381,000
1866	466,000	1879	201,000
1867	209,000	1880	471,000
1868	130,000	1881	253,000
1869	183,000	1882	1,056,000
1870	*	1883	755,000
1871	311,000	1884	804,000
1872	*	1885	837,000
1873	*	1886	658,000
1874	45,000	1887	*
1875	*	1888	370,000
1876	268,000		

* In these years the loss (if any) was slight.

Loss by droughts and epidemics.

The losses disclosed by the foregoing table are enormous, and account for the difference between a possible 15 per cent. increase in an exceptional year, or 8 per cent. in a fair year, and the 3·05 per cent., which has been the average increase per annum since 1863. It will be seen that the determination of the probable rate of increase in the number of cattle is beset with much difficulty. There is no regularity discoverable in the ratios of increase from year to year, and the adoption of any figure is a matter not so much of calculation as of opinion. The statement of yearly increases given above would seem to favour the opinion that a ratio which is the result of twenty-five years' experience may be accepted as likely to be the ratio of the future. This is, however, a superficial view of the question. During the period which has elapsed since 1863 the fine pasture lands of Queensland have been occupied, and to enable a similar ratio to be continued, similar country would need to be available. A very slight knowledge of Australia is sufficient to show that no land similar to that stocked in Queensland since 1863 is available for cattle. To show to what extent the process of stocking-up has arrived at, it may be noted that, allowing ten sheep to equal one head of cattle, the acreage to each head depastured is approximately:—

	No. of acres per head of Cattle.
Victoria	20
New South Wales	28
Queensland	64

Western and South Australia are undoubtedly to a large extent still unstocked, but neither of these colonies is capable of maintaining cattle to anything like the same extent as Queensland, and it is most unlikely that even Queensland, under the present conditions of stock-raising, will be able to reduce the acreage per head depastured to a figure approximating to that of New South Wales.

There is another difficulty in accepting the ratio since 1863; the period begins with a year marking the commencement of a drought, and ends with the second year of a most prosperous cycle. Droughts and good seasons alternate in a somewhat irregular fashion, and the more scientific way to establish a ratio of increase is to compute from the lowest point of one series of bad years to the lowest point of the next series of bad years, or what will practically amount to the same thing, compute from the height of a series of good years to the corresponding point in the next series. Taking the first method as being the more marked for the period since 1863, the following results are obtained:—

Year.	Cattle.	Yearly increase per cent.
1866	3,455,334	......
1871	4,175,688	3·8
1877	6,498,279	7·7
1886	7,138,103	1·0

Irregularity of increase.

If there were any regularity in the rates disclosed in the foregoing series, there would be good grounds for accepting the last as indicating the probable future ratio of increase. There is, however, not only no regularity, but the rates are conspicuously irregular. When dealing with this question on a former occasion an opinion was hazarded that a yearly increase of 1 per cent. was as high as the condition of these colonies warranted the expectation, but it was at the same time pointed out that the question was not greatly affected, even if 2·5 per cent. were taken as the prospective rate. This much may be confidently assumed, that the increase of stock in Australia under the present system of depasturing, will not, for any continuous period, reach 3 per cent. per annum, which is the average since 1863; on the contrary, from the well-known law of diminishing return, there is every reason to suppose it will be considerably less than this ratio. Without, therefore, hazarding an opinion as to the exact rate of increase which may be expected, in the following calculations alternative figures will be given from 1 to 3 per cent. as the probable ratio at which the herds of these colonies are likely to increase.

Annual cast of cattle.

The next matter to be determined is the cast, or proportion of stock available every year for the slaughter-yard. There is considerable diversity of opinion and practice as to the time when stock are fit for market. It has been assumed, for the purposes of these calculations, that bullocks are marketable at 5 years and cows at 8 years. It may be objected that some stock-owners are accustomed to send cattle to market at younger ages than these. This is unquestionably true in regard to bullocks bred on fattening country, especially where such is adjacent to market, when it sometimes happens that the bullocks are drawn upon before they reach the age of 5 years. Against this must be set the fact that cattle bred on purely breeding country, and fattened elsewhere, usually reach the markets at a later age than 5, while in regard to cows a large proportion are fattened off when much older than 8 years. The question, however, to be first determined, is not so much what is present practice, but what is the average economic age at which it would be expedient to send stock to market

Disposal of surplus stock.

if the whole cast available were required. This for bulloc
is 5 years, and for cows 8 years. It will be seen hereaft
that there is a surplus of stock, and consequently so
portion of the cast must be retained. If some scheme w
put into practice by which the whole surplus stock of A
tralia were used up as soon as it became available, t
question of the disposal of cows after 8 years would of cou
not arise; as the number of such cows would be p
portionately very small. But as it is not used up the eff
of having to retain part of the surplus is a matter which requi
to be considered. Assuming, first, that the surplus is being u
up, as would be the case if an export trade were established, (
of every 10,000 cattle there will be 5,762 females and 4,
males ; the females may be arranged approximately as follows
Heifers, 1,990 ; breeding cows, 3,328 ; and cows of 8 years, 4
The remainder of the herd will comprise 3,455 steers and bullo
up to 4 years, 673 bullocks at 5 years, and (say) 110 bulls. O
third of the herd will therefore be breeding cows, and the c
that is the stock of marketable age, will be 673 bullocks
444 cows, in all 1,117 head out of 10,000, or $11\frac{1}{6}$ per cent. W
such a percentage of cast there would have been a surplu
137,000 head during last year. The existence of a surplus ma
it necessary that the stockowner should retain part of the ann
cast, and as it would be unprofitable to keep bullocks after t
had arrived at a marketable age, the cows are retained as lon
they will breed good calves. For this reason there is a gre
increase in the herds under present conditions than would be
case if the cows were disposed of at 8 years. There is, on
other hand, a smaller cast, because the cows that would be a
able at 8 years are by deaths largely reduced in numbers by
time they are fattened for market, so that there is a somew
smaller numerical cast on a larger number of stock. From t
circumstances it is plain that the percentage of cast is not so
as would be the case if the present surplus stock were slaughte
and it is computed that the actual cast is not more than 1
per cent., as compared with 11·17 per cent. under other conditi

Stock slaughtered in 1889.

The total number of stock at the close of 1888 was 8,134,730, and at 10·25 per cent. the cast would be 833,800, of which 550,000 or 66 per cent. would be bullocks, and 283,800 or 34 per cent. cows. In New South Wales during 1889 the proportion of bullocks to cows reaching the slaughter-house was as 71 to 29. If this proportion held good throughout Australia, out of the 771,400 cattle slaughtered during the year 547,700 would have been bullocks and 223,700 cows.

Compared with the cast the figures for the year would be:—

	Cast.	Slaughtered.
Cows	283,000	223,700
Bullocks	550,000	547,700
Total	833,000	771,400

The nearness of the number of bullocks slaughtered to the estimated cast is surprising; no stress, however, is laid upon the circumstance, as it is probably a mere coincidence which, if another year had been taken, would hardly have occurred, nevertheless the figures plainly show that the cast of bullocks is used up every year, and the surplus which does undoubtedly exist consists mainly, if not entirely, of cows.

Surplus for 1889

The surplus for 1889 was approximately 61,600 cattle, and from the preceding remarks it would appear that these are for the most part cows, and, moreover, cows which it is desirable should be drawn off from the herds as being either speyed or old and in good condition. Hence it is that in every good year, when feed and water are abundant, there is a glut of fat stock; and it may appear anomalous, but is, nevertheless, true, that this glut may be consistent with the probability of the supply being soon equalled by the demand. From the very conditions of stock-breeding such must be the case; for cattle cannot be profitably retained beyond a limited number of years, and under any circumstances the production of cattle must go on whether the demand is great or small.

Viewed from the standpoint of the stock-owner, the existence of an undisposable surplus is an evil, and one which can only be remedied by the establishment of an export trade, or by the demand overtaking the supply. The points already determined enable a forecast to be made of the time for which an export trade may be maintained. The consumption being known, and also the rate of increase of population, a comparison with the present cast and the rate of increase of stock will give the time when the demand will overtake the supply, and the surplus for exportation will vanish.

Demand overtaking the Supply.

The question practically resolves into this: In what time will a present demand for 771,400 cattle, increasing at the rate of 3·75 per cent., overtake a supply of 833,800, increasing at (say) 1 to 3 per cent.? As the rate of increase of cattle is an uncertain quantity, various percentages, rising by half-years, have been given:—

Assumed rates of increase.	Supply overtaken.
1 per cent.	3 years.
1½ ,,	3½ ,,
2 ,,	4½ ,,
2½ ,,	6½ ,,
3 ,,	10¾ ,,

Whether the higher or the lower rate be adopted makes little difference to the general principle, and it may be broadly asserted that at the present rate of consumption the demand for beef will overtake the supply within ten and three-quarter years. What may determine whether the event be early or late within the period named, is the occurrence of the next drought, which, if it severely affect cattle, will mark the point when the supply of beef will be no greater than the local requirements.

In the prefatory remarks it was pointed out that, in order to arrive at a true idea of the condition and prospects of the meat supply it was necessary to deal with Australia as a whole. Turning now to each member of the group, it will be found that during the year 1889 the cast of stock was insufficient to meet the requirements of all the principal colonies but Queensland, the deficiency in each being—

Victoria	110,000
New South Wales	80,000
South Australia	30,000

Surplus stock in Queensland.

Queensland, on the contrary, has a large surplus, amounting to from 280,000 to 300,000 head, in addition to the local demand. New South Wales, Victoria, and South Australia are not in a position to maintain an export trade unless the stock exported be first obtained from Queensland. The last-named colony is differently situated. It has ordinarily, after supplying its own requirements, a huge surplus, and, after all Australia has been supplied, there are still remaining every year more than 60,000 head, or 13 per cent. of its total cast. But even this surplus, as the foregoing figures show, is not likely to be permanent.

The conclusions just arrived at are based on the assumption that the losses of stock experienced in past years will find their counterpart in the future; that instead of an increase of 8 per cent., which in good years may be expected, there will be at most 3 or possibly only 1 per cent. gain. Yet there is nothing in the nature of things which makes the enormous waste of stock a necessary concomitant of the pastoral progress of Australia. Although it is impossible that these colonies could under any circumstances find sustenance for a continued increase at the maximum rate given above, there is still an ample margin between the increase which is possible and what is now obtained, in saving a portion of which capital might be profitably invested.

If it were possible by water and food conservation to sa one-half of the natural increase of the stock of these coloni the lavish use of meat as an article of diet which now obtai could be continued, while any increase above that named wou be available for export. Unless, however, steps are taken mitigate the effects of the periodic droughts which afflict th country, and save part of the astonishing waste of animal li the demand for beef will within the period named overtake t supply. But even in such event it will always be possible again overtake the demand, if measures be devised to minim the disastrous effects with which a failure of the season is n attended.

Increase of sheep.

The question is essentially different and much more favour in regard to sheep than cattle. The present surplus is m larger, the proportionate consumption is less, while the eff of droughts are on the whole less severe upon sheep than cattle, and as a consequence the annual increase is grea The increase of sheep since 1863 has been even more rapid t that of population, but in connection with this must be ta the fact, that during these years the lands best adapted sheep-walks have been for the most part occupied, and are f being stocked up. Thus if cattle and horses be put in terms sheep, that is to say, counting one head of large stock as equa to ten sheep, the condition of the four principal colonies is, approximately—

	No. of acres per sheep.
New South Wales	2·8
Victoria	2·0
Queensland	6·4
South Australia	40·0

And it would therefore be no unreasonable supposition to affirm that the future rate of increase will be restricted by the want o suitable pasturage.

ollowing is a statement of the sheep at the close of each
ce 1863 :—

r.	Number of Sheep.	Increase or Decrease during the year.	Percentage of Increase or Decrease.	Percentage of Increase per annum since 1863.
....	24,819,312	....	....	....
....	26,833,196	2,013,884	8·12	8·12
....	27,787,209	954,013	3·56	5·81
....	32,066,722	4,279,513	15·40	8·91
....	37,123,184	5,056,462	15·77	10·59
....	39,346,008	2,222,824	5·99	9·66
....	38,645,467	*700,541	*1·78	7·66
....	40,243,837	1,598,370	4·14	7·15
....	38,767,466	*1,476,371	*3·67	5·73
....	40,412,151	1,644,685	4·24	5·57
....	43,948,576	3,536,425	8·75	5·88
....	48,097,316	4,148,740	9·44	6·20
....	51,392,486	3,295,170	6·85	6·25
....	50,896,507	*495,979	*0·92	5·68
....	44,807,810	*6,088,697	*11·96	4·31
....	49,737,531	4,929,721	11·02	4·74
....	52,047,975	2,310,444	4·64	4·74
....	60,389,987	8,342,012	16·03	5·37
....	63,230,862	2,840,875	4·70	5·33
....	65,981,116	2,750,254	4·35	5·28
....	68,154,228	2,173,112	3·29	5·18
....	59,850,111	*8,304,117	*12·18	4·28
....	65,896,190	6,046,079	10·10	4·54
....	67,833,120	1,936,930	2·94	4·47
. ...	79,679,235	11,846,115	17·46	4·98
. ...	80,028,442	349,207	0·44	4·79

* Decrease.

Average increase.

l be seen that the increase exceeded 15 per cent. in rs, in two other years it was above 10 per cent., but in s there were absolute decreases, so that for the whole ie average rate did not exceed 4·79. Dividing the years by the preceding statement into periods defined by the which afflicted the country, the following results are :—

Year.	Sheep.	Yearly increase per cent.
1863	24,819,312	......
1869	38,645,467	7·7
1877	44,807,810	1·9
1884	59,850,111	4·2

The rate for the full period from 1863 to 1884 was 4·3 per cent per annum, while from 1869 to 1884 it barely reached 3 per cent. It is probable that during the next decade an increase at a much greater rate than 3 per cent. can hardly be expected, and this is the figure which will be used in the following computations.

Losses by droughts and epidemics.

The assumed percentage given is undoubtedly small when compared with the actual increases which have taken place in certain years, as disclosed by the preceding table. The area of Australia is so large that there are few years during which some part is not afflicted by droughts; hence it is that though in good seasons an enormous increase of stock can be recorded, in seasons of opposite character it sometimes happens that the increase of many previous seasons is swept away. Computing the lambing at 67·5 per cent. in a normal year, the following statement shows the losses arising from droughts and epidemics, all causes of natural or expected decrease being allowed for:—

Loss of Sheep by Droughts and Epidemics.

Year.	Sheep.	Year.	Sheep.
1864	*	1877	11,284,000
1865	1,278,000	1878	*
1866	*	1879	2,431,000
1867	*	1880	*
1868	1,495,000	1881	3,495,000
1869	4,700,000	1882	3,911,000
1870	2,175,000	1883	4,804,000
1871	5,420,000	1884	15,425,000
1872	1,937,000	1885	*
1873	245,000	1886	4,408,000
1874	149,000	1887	*
1875	1,617,000	1888	7,983,000
1876	5,881,000		

* In these years the losses (if any) were slight.

Cast of sheep.

It is estimated if wethers were all withdrawn from the flocks at 4 years and ewes at 7 years, which may be termed the economic age in regard to sheep, the cast would be 15·3 per cent., to which the ewes would contribute 6·7 and the wethers 8·6 per cent. So large is the surplus that a large proportion of the ewes are never prepared for market, but are kept breeding as long as possible. On this account the cast in no year reaches the theoretic proportion of 15·3; it probably does not exceed 12 per cent., and this last figure will be used in determining the number of marketable sheep. It must, however, be noted that as the demand for sheep rises the age at which ewes will be fattened will decline, till, with a demand equal to the supply, the age would be 7 years, and a fall in the average age will bring about an increase in the cast, until the maximum given above is reached.

Question of supply and demand.

The consumption of sheep during 1889 has been given above as 5,637,300, while the cast of 80,028,000 sheep at 12 per cent. will be 9,603,300, showing a surplus of 3,996,000, that is to say, the last-mentioned number of sheep could be exported from Australia in an average year without trenching on the local requirements. Though the population may be expected to increase at the rate of 3·9 per cent., the increase in the demand for mutton may be set down, as for beef, at 3·75 per cent. The question of the meat supply, so far as it affects sheep, resolves itself into this: When will 5,637,300 yearly increased at 3·75 per cent. overtake 9,603,300 increased at 3 per cent.? The answer is 74 years, which is virtually the same as saying the stock of sheep is inexhaustible, for long before 74 years elapse the conditions of life in Australia will have entirely altered, the rate of increase of population will have declined, and the present lavish use of meat will probably also cease to be the rule. As further illustrating the confidence with which a continuance of the present supply of sheep can be looked forward to, it may be stated that if the increase in sheep fell to 1·9 per cent., which was the rate from 1869 to 1877, the supply would not be overtaken before 29 years had elapsed; if the increase were at 1 per cent. the time would be 20 years. Under no circumstance therefore can the possible failure of the supply of sheep have any interest for the present generation; for, assuming that the supply of beef was reached by the demand, and the deficiency was made good by the use of mutton, without diminishing the quantity of meat used, and taking an unfavourable view of the prospects of beef, the time when the combined supply would be reached by the demand would still be distant twenty-two years.

SLAUGHTERING.

Slaughtering for food.

Slaughtering for food is permitted only in places licensed for the purpose, but such establishments are very numerous. In the metropolitan district there are 19, and in the country districts 1,390 slaughter-yards, employing respectively 250 and 3,463 men, in all 1,409 establishments, and 3,713 men. The quantity of meat consumed in the metropolitan district during the year is about 260 ℔. per head, comprising 90 ℔. mutton and 160 ℔. beef, to produce which 750,750 sheep and lambs and 90,839 head of cattle were slaughtered in 1889. In the rest of the Colony the demand for beef also greatly predominates, the yearly quantity being 72 ℔. mutton and 176 ℔. beef, making a total of 248 ℔. per head. The stock slaughtered in the country districts during 1889 was 1,120,809 sheep and 182,325 cattle. In addition to the stock mentioned above, there were slaughtered 110,722 pigs—48,929 in Sydney, and 61,793 in the country. From the foregoing statement it will be seen that the average annual consumption of mutton for the whole Colony equals 81 ℔., and of beef 168 ℔. The following table shows the quantity of stock of each kind killed for food in 1889 :—

Stock.	Number slaughtered in 1889.		
	Metropolitan.	Country.	Total.
Sheep	725,532	1,077,050	1,802,582
Lambs	25,218	43,759	68,977
Bullocks	43,746	125,799	169,545
Cows	20,619	49,031	69,650
Calves	26,474	7,495	33,969
Pigs	48,929	61,793	110,722

Price of fat stock.

The value of stock slaughtered can be determined with exactness only for the metropolitan market. Taking all stock sent to the Homebush saleyards, at Sydney, during 1889, for the purpose of slaughter, the price of sheep averaged 9s. 6d. to 10s. for wethers, and 7s. to 7s. 6d. for ewes. For bullocks the average price was £6 5s. per head, and for cows about £2 less. At the Abattoirs mutton sold for 1½d. per lb., the offal of the sheep being worth 2s., and the skin from 3s. to 3s. 6d. Beef ranged from 1½d. to 1¾d. per lb., the offal and hide being worth from 19s. 6d. to 23s. per head.

DAIRY FARMING.

Dairy farming a promising industry.

Dairy farming has made very rapid progress of late years, especially in the south coast districts, and promises to develop into a very important industry. The number of dairy cows during the early part of the year 1890 may be estimated as 261,315, thus distributed :—

Number of Dairy Cows.

Metropolitan District	6,266	Macquarie, East	1,443
Albury	679	Macquarie, West	2,040
Argyle	7,741	Maitland, East	1,268
Balranald	2,036	Maitland, West	80
Bogan	4,080	Molong	1,694
Boorowa	926	Monaro	7,140
Bourke	2,268	Morpeth	2,238
Braidwood	3,200	Mudgee	2,919
Camden	22,168	Murray	1,846
Carcoar	2,648	Murrumbidgee	5,136
Clarence	1,293	Namoi	2,892
Central Cumberland	3,106	Nepean	2,546
Durham	3,338	Newcastle	386
Eden	28,863	New England	4,654
Forbes	2,264	Northumberland	1,349
Glen Innes	3,377	Orange	1,767
Gloucester	3,538	Parramatta	221
Goulburn	201	Patrick's Plains	5,704
Grafton	2,577	Queanbeyan	3,497
Grenfell	4,164	Richmond	13,788
Gundagai	2,662	Shoalhaven	17,400
Gunnedah	1,685	Sturt	667
Gwydir	2,060	Tamworth	4,412
Hartley	1,565	Tenterfield	1,991
Hastings and Manning	5,449	Tumut	2,577
Hawkesbury	1,980	Wellington	1,794
Hume	4,213	Wentworth	107
Hunter	3,616	Wilcannia	278
Hunter, Upper	5,138	Wollombi	1,532
Illawarra	8,170	Yass Plains	2,712
Inverell	2,043	Young	3,261
Kiama	15,534		
Macleay	3,124		261,315

Constant attention to the peculiarities of the climate, and the wants of the colonists, as well as the judicious crossing of strains, have developed a breed of cows peculiar to Australia. This is especially the case in the coast districts immediately south of Sydney, though all well-known breeds of milkers are found in New South Wales. The milk yielded by the dairy cows of the Colony amounts to 143,723,000 gallons, of which the quantity consumed in making butter and cheese during the past year may be set down as 65,000,000 gallons, and the weight of the butter made 17,600,264 lb., and of cheese, 4,834,286 lb. The yield of milk averages for ordinary unselected Ayrshire cows 600 gallons annually, while some yield 1,300 gallons per annum; 550 gallons may be taken as a fair average all round. The quantity of milk required to make a given weight of butter varies considerably according to whether the milk is treated by a separator or in the old fashion. A great proportion of the butter now made is what is usually termed factory or separator-made, and the average quantity of milk used per lb. of butter produced is 2·6 gallons, or 26 lb. 2 oz. For ordinary hand-made butter the quantity required is from 3 to 4 gallons, thus showing a saving of about 33 per cent. by the former method, in addition to the extra value of the butter, the price during 1889 being about 3d. per lb. higher in the Sydney markets for the factory-made than for the ordinary kind. No statistics respecting the manufacture of butter and cheese were collected prior to 1887, when the quantity made was 16,106,000 lb. and 5,780,000 lb. respectively. The number of hands employed at dairy farming in 1889 was approximately 10,000; of these 1,339 were employed in the various factories. The factories numbered 234, of which 74 employed steam and 160 hand or other power. The plant developed about 447 horse-power, and was valued at £45,701, and the buildings and land £520,091, making the total capital invested, exclusive of stock, £565,792. Notwithstanding the extent of this industry, and the resources of the Colony, butter and cheese are still largely imported, the quantity imported and exported varying greatly with the seasons.

Butter and cheese made.

Factory butter.

Hands employed.

The following table shows the trade in these commodities during the past ten years:—

Year.	Butter.		Cheese.	
	Imported.	Exported.	Imported.	Exported.
	lb.	lb.	lb.	lb.
1880	228,144	1,227,059	115,678	173,829
1881	660,128	762,397	171,544	145,833
1882	1,654,016	437,856	331,944	163,378
1883	1,813,504	778,635	161,753	259.742
1884	2,791,936	621,264	725,177	247,337
1885	3,624,992	521,473	769,148	123,585
1886	3,129,392	286,944	1,229.334	85,815
1887	1,034,544	1,041,152	318,099	247,826
1888	2,258,704	764,960	691,148	300,375
1889	1,904,737	662,489	955,494	300,750

Butter and cheese making districts.

A former table shows the number of dairy cows in each electoral district. The following are the districts in which the largest quantities of butter, cheese, and bacon are made:—

District.	Butter made.	Cheese made.	Bacon and Hams made.
	lb.	lb.	lb.
Argyle	446,082	95,450	155,911
Camden	2,016,432	11,254	245,947
Eden	2,224,407	3,871,349	989,189
Illawarra	640,424	5,056	1,560
Kiama	3,603,653	300	756,715
Monaro	131,762	194,250	178,494
Richmond	1,176,000	208,585	59,514
Shoalhaven	2,103,396	48,850	942,554
Other districts	5,258,108	399,192	3,001,825
	17,600,264	4,834,286	6,331,709

HORSES.

Horse-breeding.

New South Wales is eminently fitted for the breeding of most descriptions of horses, and attention has long been directed to this industry. At an early period of its history the Colony was enriched by the importation of some excellent thoroughbred Arabians from India; and the high name which was acquired by the horses of

Excellence of native grasses.

Australia was largely due to this cause. The abundance of good pasture everywhere obtainable also contributed to this result. The native kangaroo-grass, especially when in seed, is full of saccharine matter, and young stock thrive excellently upon it. This abundance of natural provender allowed a large increase in the stock of the settlers, which would have been a great advantage, had it not been that the general cheapness of horses led to a neglect of the canons of breeding. In consequence of the discovery of gold, horses became very high priced. Under ordinary conditions this circumstance would have been favourable to the breed of horses, and such was the case in Victoria. In this Colony it was far otherwise. The best of the stock of New South Wales, including a large proportion of the most valuable breeding mares, was taken by Victoria, with the result that for twenty years after the gold rush the horses of the Colony greatly deteriorated. One class of stock only escaped. The thoroughbred racer was probably improved both by the importation of fresh stock from England, and by the judicious selection of mares. The period of deterioration ended about the year 1870, since which year there has been a perceptible improvement in all classes of horses. The number of horses in New South Wales shows little increase for the last sixteen years, as may be seen from the table following:—

Partial deterioration of stock.

Year.	Number of horses.	Year.	Number of horses.
1874	346,691	1882	328,026
1875	357,696	1883	326,964
1876	366,703	1884	337,172
1877	328,150	1885	344,697
1878	336,468	1886	361,663
1879	360,038	1887	390,609
1880	395,984	1888	411,368
1881	398,577	1889	430,777

Small annual increase of horses.

The annual increase in the number of horses has been not more than 1·45 per cent. during the whole period covered by the above table, while the increase of population has been at the rate of 4·56 per cent.

Classification of horses.

r purposes of classification the horses of the Colony have been ed into draught, light-harness, and saddle-horses, the numbers ch particular kind being as follows :—

Class.	Thoroughbred.	Ordinary.	Total.
ght	19,850	119,528	139,378
-harness	14,226	95,433	109,659
e	25,057	156,683	181,740
Total...............	59,133	371,644	430,777

Saddle and harness horses.

Endurance of colonial horses.

ie Colony is specially adapted for the breeding of saddle and -harness horses, and it is doubtful whether these particular ls of Australian horses are anywhere surpassed. The bush e is hardy and swift, and capable of making very long and l journeys, when fed only on the ordinary herbage of the try ; and in times of drought, when the grass and water have me scanty, these animals often perform astonishing feats of rance. Generally speaking, the breed of horses is improving, ig to the introduction of superior stud horses and the breeding good mares. Where there has been a deterioration in the k, this has been due to breeding from weedy mares for racing poses and from the effect of the drought.

he approximate number of animals fit for market during present year will be :—

Draught-horses	22,517
Saddle ,, ...	22,096
Light-harness horses......	32,478
Total....	77,091

India and China markets.

f these it is estimated that nearly 18,220 are suitable for Indian and China markets. The total number leaving the ony for markets outside Australia during 1889 was only 668. hough the demand for horses in India is considerable and Aus-lia is a natural market from which supplies may be derived re is no one employed by the Indian Government to make nself acquainted with the resources of the various colonies, or to nish information to intending shippers. The speculation of

Foreign demand for horses limited.

sending horses to India is one open to many risks, as, apart from the dangers of the voyage, there is always an uncertainty as to the stock being accepted. Owing, therefore, to the limited demand, it has not been found advantageous to breed horses for any but local requirements.

The number of wild horses in the Colony during the year is estimated at 4,230, a decrease of over 1,250 on the number in the previous year.

SWINE.

Swine-breeding neglected.

The breeding of swine has also been very much neglected in New South Wales, so that in 1889 the number of stock was 9,998 less than in 1888. Considering the importance which the industry has attained in other countries, it is a matter of surprise that more attention has not been paid to it in this Colony, where the conditions of farming in many parts, more especially in the coast districts offer great facilities for the raising of this class of stock. The estimated value of swine in the Colony at the close of 1889 was £600,000, and the estimated return therefrom for the year was about £255,000. The following table shows the number of pigs in New South Wales for each year since 1861 :—

Value of annual cast.

Year.	Number of swine.	Year.	Number of swine.
1861	146,091	1876	173,604
1862	129,340	1877	191,677
1863	135,899	1878	220,320
1864	164,154	1879	256,026
1865	146,901	1880	308,205
1866	197,915	1881	213,916
1867	173,168	1882	154,815
1868	176,901	1883	189,050
1869	175,924	1884	211,656
1870	243,066	1885	208,697
1871	213,193	1886	209,576
1872	216,904	1887	264,111
1873	240,580	1888	248,583
1874	219,358	1889	238,585
1875	199,300		

The number of swine slaughtered during 1889 was 110,722, which 68,928 were killed at the Metropolitan abattoirs. T weight of pork obtained was about 11,100,000 lb., of which 6,331,709 lb. were made into bacon and ham; the principal seat of the bacon-curing industry being the South Coast district.

PASTORAL PROPERTY.

Value of pastoral property.

Pastoral property and stock form the largest factor in the wealth, not only of New South Wales, but also of all the other principal colonies of Australasia, and the return derived therefrom is the largest source of the income of its inhabitants. The total capital value of pastoral property, including land, improvements, and plant, as well as stock, was estimated at the beginning of 1890 at £417,000,000, and of this large sum £167,000,000, or 40 per cent., belonged to New South Wales.

Total Live Stock in Australasia.

The number of stock of all kinds in each colony at the close of the year 1889 cannot be exactly determined, as no census was taken in New Zealand, but the approximate numbers were as follows:—

Colony.	Sheep.	Cattle.	Horses.	Swine.
	No.	No.	No.	No.
New South Wales	50,106,768	1,741,592	430,777	238,585
Victoria	10,882,231	1,394,209	329,335	249,673
Queensland	14,470,095	4,872,416	352,364	80,730
South Australia	6,386,617	324,412	170,515	106,856
Western Australia	2,366,681	119,571	42,806	27,079
Tasmania	1,551,429	150,004	29,778	58,632
New Zealand	15,503,263	895,461	187,382	369,992
Total	101,267,084	9,497,665	1,542,957	1,131,547

Relative importance of each colony.

New South Wales, therefore, ranked first as regards the number of sheep—50,106,768 out of a total of 101,267,084, or 49·48 per cent. being depastured within its limits. In regard to cattle, this Colony stood next to Queensland, having 1,741,592 head of cattle out of a total of 9,497,665, or 18·34 per cent. of the whole of the cattle of Australasia. As a horse-breeding country New South Wales came first, with 430,777, or 27·92 per cent. of the total horses of the colonies, Victoria coming second with 329,335 head. New Zealand has a larger number of swine than any other colony—its total being 369,992, or 32·69 per cent. New South Wales ranked second with 238,585 or 21·08 per cent.

Stock runs.

Dams and fencing

The number of sheep and cattle runs in the Colony during the year 1889 was 40,807, of which 32,908 were enclosed, and 7,899 were open or unenclosed; 20,784 of the enclosed runs were properly subdivided into paddocks, and 12,029 were only partially subdivided. The area comprised in these holdings was 166,000,000 acres, about 26,000,000 acres being freehold, and 140,000,000 acres leased from the State. The improvements effected on pastoral estates for fencing and for watering stock have been valued by the Chief Inspector of Stock at £66,353,929. Of this sum fencing absorbs £58,650,054, representing 1,462,511 miles at an average rate of £40 2s. per mile. The dams for watering stock number 25,666, which, at an average value of £83 7s., give a total value of £2,139,500. There were 27,345 excavated tanks, worth on an average £180 18s. 9d., or, in all, £4,947,751, while the number of wells sunk or bored number 3,338, the average value of each well being £184 14s. 6d., and the total of all wells being £616,624.

Facilities for watering stock.

Storage of water on stock routes.

For the purpose of watering stock along routes reserved for travelling, tanks, wells, and reservoirs have been constructed by the Roads Department, and artesian wells by the Mines Department. There are 113 excavated tanks, 20 impounding reservoirs, and 40 wells and bores, and there are now in progress 14 tanks, 2 dams, and 28 bores, together with 2 water-works, making 220 works in all. The standard depth of a tank is 18 feet, the capacity varying from 2,000,000 to 3,500,000 gallons, exclusive of the water stored above the surface of the ground by means of embankments formed of the excavated materials, including this quantity the average capacity of tanks is about 5,500,000 gallons each, with a total storage of over 600,000,000 gallons. In nearly every case appliances for lifting and economically distributing the water have been provided to the tanks. There have been erected 51 steam pumps, and 70 pumps worked by horse-power. The water is lifted from the tank into a wrought-iron distributing cistern of a capacity of 20,000 gallons, whence it gravitates into a steel trough about 100 yards in length, and from this the stock drink. Similar appliances are found in connection with the wells, but the water is raised in buckets by a horse whim and not by steam power. The wells vary greatly in depth according to the formation, the deepest being 400 feet, and the shallowest about 70 feet.

The World's flocks.

The latest figures which have come to hand respecting the flocks and herds of the principal countries, refer to various years from 1882 to 1886, and are given herewith. The important part which these colonies are destined to play in the wool markets of the world will be better understood when the character of the wool produced in Australia is made an item of comparison, as well as the actual number of sheep depastured :—

	Cattle.	Horses.	Sheep.	Swine.
Europe	97,200,000	33,300,000	187,000,000	44,700,000
Asia	70,400,000	4,200,000	37,000,000	500,000
Africa	4,000,000	700,000	29,000,000	300,000
America, North	55,000,000	14,900,000	47,000,000	51,600,000
America, South	57,700,000	6,000,000	101,000,000	1,400,000
Australasia	9,300,000	1,500,000	96,500,000	1,100,000
Total	293,600,000	60,600,000	497,500,000	99,600,000

Pastoral resources of New South Wales in terms of sheep.

In order to give a more definite idea of the extent of the pastoral resources of New South Wales, the following table has been compiled, showing in five-year periods, from 1860, the amount of stock that has been actually depastured in the Colony. For the sake of convenience the numbers of cattle and horses are expressed in terms of sheep; that is, allowance has been made at the rate of ten sheep for each head of large stock, so that the total shows what would have been the result had the cattle and horses been replaced by their equivalent of sheep. There is also shown the number of acres of land in the Colony to each sheep of the totals thus found, at the end of every five-year period, as well as the number of such sheep per head of the population at the same periods :—

Live Stock of the Colony expressed in terms of Sheep.

Year.	Sheep.	Cattle.	Horses.	Total.	Acres per Sheep.	Sheep per Head of Population.
1860	6,119,163	24,085,860	2,514,970	32,719,993	5·99	93·87
1865	8,132,511	19,619,050	2,825,870	30,577,431	6·40	74·73
1870	16,308,585	21,950,960	3,375,970	41,635,515	4·70	83·49
1875	25,353,924	31,340,860	3,576,960	60,271,744	3·35	101·42
1880	35,398,121	25,800,400	3,959,840	65,158,361	3·00	87·83
1885	37,820,906	13,173,150	3,446,970	54,441,026	3·60	56·83
1889	50,106,768	17,415,920	4,307,770	71,830,458	2·73	64·01

DISEASES IN STOCK.

Diseases sheep.

On the whole the stock of the Colony was tolerably free from disease during 1889, especially as regards sheep and horses. Scab in sheep has been unknown in this Colony for some considerable time, and indeed the whole of Australasia is at present exempt from this malady, with the exception of New Zealand and Western Australia, where it exists to a very slight extent. Foot-rot has been noticed in twenty-three districts of New South Wales, attributed to wet in the early part of the year, running on low rich pasture, and contagion. In nine districts the sheep were affected with fluke, through depasturing on low swampy ground, unsound country, and rank pasture. The sheep in sixteen districts, to the extent of about 7 per cent., were reported to have been infested with worms. The year was unusually free from epizootic diseases in horses. Anthrax was reported in one district, and horse fever had occurred in a mild form in the Balranald district, but it did not spread. Australian stringhalt had appeared in the early part of the year, a disease considered by the Government Veterinary Surgeon to be due to the presence of intestinal parasites. Prurigo continued to give trouble in the Clarence and Richmond River districts. 1,638 horses are said to have died during the year from wire in chaff, and other accidents.

Disease horses.

Diseases in cattle.

With regard to cattle, pleuro-pneumonia was reported from twenty-six districts, or 195 runs, while in thirty-four districts the cattle were reported as free from that disease. In the infected districts the presence of the disease was attributed to the introduction of cattle from Queensland, and contact with travelling stock from that colony. Inoculation had proved successful in twenty-five districts, but had failed in one, owing to bad virus and an inexperienced operator. Stock-owners generally were largely in favor of compulsory inoculation. Several cases of tuberculosis had been detected at the Homebush and Maitland cattle saleyards ring 1889. Cumberland disease was reported to have killed

682 head, in eight districts, during the year, being 534 less than in 1888. Symplomatic Anthrax, or "Blackleg," had carried off 782 head, in eight districts, being an increase of 454. Cattle to the number of 1,997 are reported to have died of tubercular swellings in the throat, and 367 deaths are reported from ophthalmia. No disease whatever was reported amongst pigs.

NOXIOUS ANIMALS.

The only large carnivorous animal in Australia at all dangerous to stock is the dingo, or native dog; but animals which consume the pasturage, such as kangaroos, wallabies, and rabbits, are equally deemed noxious by the settlers. Rabbit pest. The rabbits are the greatest pest. At one period over 100 million acres were infested with them, and 25,280,000 were destroyed in one year, and their skins paid for by the Government. So serious had the evil become in 1883 that a special Act was passed to deal with the trouble, and raise funds for the purpose by assessment on the stock in the infested country. It is estimated that over a million has been spent in the destruction of rabbits, a portion of which was expended on wire fencing, which is considered the only effective method of dealing with the plague. One line of fencing extends from Narramine, on the Macquarie River, to Bourke, on the Darling River, a distance of 207 miles; thence to Barringun, a further length of 84 miles, at an average cost of £82 per mile. Another fence has been constructed from the Murray northward, along the western boundary of the Colony, a distance of nearly 346 miles. The cost of this line was £27,670 in round figures, exclusive of the cost of supervision during the progress of the various contracts, which would increase the amount by about £2,500. The wire-netting used was 17 gauge, 1¼ inch mesh, and 42 inches in width. A third fence extends from Albury to Trangie, on the Narramine–Bourke line, besides which there has been a large amount of rabbit-proof fencing put up by individual pastoralists to protect their runs. The following table shows the yearly expenditure on account of rabbit destruction, with the amount derived from assessment and that paid out of general revenue:—

Year.	Assessment.	General Revenue.	Total.
	£	£	£
1883	490	......	490
1884	69,406	......	69,406
1885	46,926	88,128	135,054
1886	40,200	127,434	167,634
1887	47,518	161,916	209,434
1888	41,308	90,897	132,205
1889	47,726	36,359	84,085
1890 (31st August)	18	5,248	5,266
Total	£293,592	£509,982	£803,574

Extirpation of noxious animals

For the destruction of noxious animals other than rabbits the amount of assessment paid by stock-owners was £33,257, and the expenditure £50,526, the difference between these sums being paid by the general government, or from the savings of previous years. The number of kangaroos destroyed during the year was 495,673; of wallabies, 642,782; kangaroo rats, 86,527; padda-mellons, 5,670; wild pigs, 9,700; hares, 329,683; native dogs, 9,142; eagle-hawks, 3,199. The loss of stock from native dogs is reported to have been 57,561 sheep, valued at £21,654; while the loss from tame dogs is returned at 41,067 sheep, valued at £17,252.

Rewards paid

The reward paid for scalps of noxious animals differs greatly, according to the locality, and is determined by the various Boards. The prices paid were as follows:—For kangaroos, from 1d. to 1s.; wallaroo, 6d.; wallaby, from 1d. to 1s.; padda-mellon, from 2d. to 1s.; hares, from 2d. to 1s.; kangaroo rats, 2d. to 6d.; native dogs, from 10s. to 80s.; pups, 5s. to 10s.; opossum, 1d. to 2d.; wild pigs, 1s.; bilbees, 2s. 6d.; eagle-hawks, 2s. 6d. tc 7s. 6d.; emus, 6d. to 2s.

PART XIII.

Food Supply and Cost of Living.

THE soil of New South Wales is capable of producing in abundance most of the things necessary for the sustenance of human life, though the production of some of these necessaries has been almost entirely neglected, while others are obtained in quantities insufficient for the wants of the community. Considering the comparatively high rate of wages which prevails, food of all kinds is fairly cheap; and articles of diet, which in other countries are almost within the category of luxuries, are in New South Wales largely consumed even by the poorest classes.

Cost of foods.

The cost of providing food and beverages, other than intoxicants, consumed in the Colony during 1888 was £15,750,000. This sum represents the price to the consumer, and covers all charges, except that of cooking and preparing the food for the table. The average expenditure per head of population was therefore £14 16s., equal to 9·7d. per day, or including liquors, £19 4s., and 12s. 6d. respectively. Compared with the cost of food supply in other countries this sum will not appear considerable, especially when allowance is made for the profusion with which flesh meat is consumed and wasted in this Colony. The following figures are taken from the Dictionary of Statistics, and show the daily expenditure per head of the more important European countries and of the United States :—

Daily expenditure on food, including liquors.

Country.	Pence per Head.	Country.	Pence per Head.
United Kingdom	9·0	Spain	4·6
France	7·0	Belgium and Holland	6·7
Germany	6·5	Scandinavia	6·0
Russia	4·1	United States	7·0
Austria	5·8	New South Wales	12·6
Italy	4·2		

Retail cost of foods.

The main articles of consumption in the Colony are meat and bread, the retail value of which equals about 46 per cent. of the total expenditure on food. The following is the approximate cost of the main articles which enter into daily consumption :—

Retail value of foods, &c., consumed.

	£
Bread	3,700,000
Fresh meat	3,500,000
Vegetables and fruits	2,310,000
Milk, butter, cheese, &c.	1,600,000
Other farm produce	610,000
Sugar	1,200,000
Tea, coffee, &c.	730,000
Other foods and beverages	2,100,000
	£15,750,000

Principal articles of diet required per head.

The amount of the principal articles of diet annually required by each member of the community is estimated to be as follows :—

Flour	260·0 lb.
Rice	12·5 „
Meat { Beef ... 168 lb. Mutton ... 81 „ Pork, &c. 12 „ }	261·0 „
Potatoes	215·0 „
Sugar	94·0 „
Butter	16·0 „
Cheese	6·0 „
Tea	131·2 oz.
Coffee	13·0 „

For the year 1890 the total demand of the Colony for the above classes of food will be approximately :—

Flour	133,100 tons.
Rice	6,700 ,,
Beef	85,800 ,,
Mutton	41,000 ,,
Pork and bacon	6,200 ,,
Potatoes	109,800 ,,
Sugar	48,000 ,,
Butter	8,200 ,,
Cheese	3,100 ,,
Tea	9,400,000 ℔.
Coffee	930,000 ,,

Deficiency of wheat.

The production of wheat in the Colony is not yet equal to the demands of the population. In 1889 the deficiency of home production was about 5,100,000 bushels, equal to 102,000 tons of flour, or 71 per cent. of the whole requirements The season 1888–9 was, probably, the worst on record, and the wheat harvest was a complete failure, so that the deficiency for 1889 was unprecedently large. Based on the average yearly consumption of 6·5 bushels per head, the demand of 1890 will be 7,450,000 bushels, of which about 5,950,000 will be available from the harvest of the Colony.

Rice.

Rice is not grown in the Colony, and the quantity required is imported either directly or indirectly from China and India. The land adapted for the growth of rice in New South Wales is not very extensive in area, and is probably put to better use.

Meat supply

In the matter of meat supply the Colony is almost independent of external assistance. The consumption of fresh meat of all kinds is extremely great, and, though possibly less than in the neighbouring colonies of Queensland and Victoria, it exceeds per head that of any other country. The requirements of the Colony for food alone amounted in 1889 to 273,164 head of cattle, 1,871,559 head of sheep ; and, though the supply of cattle sufficient to meet the demand was beyond the resources of the Colony, the number of sheep available for market very largely exceeded even the number given above, and were it not for the preference of beef to mutton no stock need have been imported for slaughtering.

Consumption of sugar.

The consumption of sugar in the Colony is enormous, averaging about 94 ℔. per head during each year. The fields of the Colony produced during 1889 about 12,446 tons, or 32,335 tons short of the local demand. This large quantity was imported principally from Queensland and the East Indies. As pointed out in the previous pages relating to agriculture, a large part of the Colony is well adapted to the growth of sugar-cane; but the low price which sugar has brought for several years has not made it sufficiently profitable, and its cultivation has been to some extent neglected. The considerable rise in the price of this commodity during 1889 led to an extension of cultivation over that of the previous year, but the production of sugar could still be increased by 60 per cent. before overtaking the local demand.

Potatoes.

The amount of potatoes imported for local consumption during 1889 was 48,942 tons, while the quantity available from the fields of the Colony was only 36,839 tons. The imports amount, therefore, to 56·8 per cent. of the total consumption, a result due not so much to the inability of the farmers to grow this crop, as to the low prices prevailing for some years in the local markets, which have discouraged the further extension of the cultivation of the potato.

Consumption of beverages.

The quantity of the beverages, tea and coffee, consumed is remarkably large, while the consumption of wine, beer, and spirits, which are in this Colony mere luxuries, is perhaps more considerable than would be expected amongst a people so largely addicted to tea drinking. The quantities consumed annually per head average as follows:—

Tea	8 ℔. 3 oz.
Coffee	13 ,,
Wine	0·72 gallons.
Beer	12·85 ,,
Spirits	1·20 ,,

Tea and coffee.

Tea is not grown in the Colony, and though the soil and climate of a part of New South Wales are adapted to its cultivation, no systematic attempt has been made to grow this plant. The coffee berry, especially the Liberian variety, thrives in the north coast district, but it has not yet been cultivated for commercial purposes.

Butter and cheese.

The consumption of butter and cheese varies greatly, being directly affected by the character of the season which prevails. The quantity of butter imported for home consumption during 1889 was 11,091 cwt., and the amount of local produce 157,145 cwt., making a total of 168,236 cwt. New Zealand supplied 10,039 cwt., Victoria 2,037 cwt., and South Australia 4,714 cwt. of the butter imported. Cheese is not so largely consumed as might be expected from the pastoral occupations of the people of the Colony and the largeness of the flocks. The amount of cheese made in the Colony during 1889 was about 43,163 cwt., while the quantity imported for local requirements reached 5,846 cwt. New Zealand, Victoria, and South Australia supply the larger part of the cheese imported into New South Wales, the former country sending 5,591 cwt., Victoria 1,076 cwt., and South Australia 868 cwt. during the year named.

Food consumption in Australasia.

The average quantity of the principal articles of common diet is given herewith for the various Colonies of Australasia. It will be seen that the consumption of wheat varies from 365 lb. in Queensland to 454 lb. in New Zealand, the average consumption being 395 lb. per head. Rice, which is almost entirely imported, varies greatly in the quantity used, only 4·5 lb. being the consumption of South Australia, as against 24 lb. in Queensland. The use of tea is universal in Australia, the consumption being largest in New South Wales and Queensland—with 131 oz. and 139 oz. respectively. The consumption of this beverage in England amounts to 73 oz. per head, in the United States to 21 oz., while on the continent of Europe the quantity does not exceed 1 oz. Sugar also enters largely into consumption, the average being 100 lb. per head in Victoria and 94 lbs. in New South Wales. Coffee is not such a favourite beverage in Australasia, the consumption being scarcely more than one-ninth that of tea. It is used most largely in South Australia, where the annual quantity amounts to 21 oz.

Consumption of Foods, &c., in Australasia.

Article.	New South Wales.	Victoria.	South Australia.	Queensland.	Tasmania.	New Zealand.	Australasia.
Wheat ....lb.	390	377	390	365	402	454	395
Rice ....lb.	12·5	15	4·5	24	9	8·5	13
Potatoes ....lb.	215	282	195	250	389	412	279
Sugar ....lb.	94	100	87	59	86	78	89
Tea ....lb.	8·2	7·2	6·4	8·7	6·4	6·7	7·5
Coffee ....oz.	13	17	21	14	8	10	14
Cheese ....lb.	6	...	...	...	...	4·5	5·4
Butter ....lb.	16	...	...	...	...	16	16
Salt ....lb.	38	...	...	43	20	29	35
Meat—Beef ....lb.	168	155	...	280	60	90	163
Mutton ....lb.	81	98	...	90	150	110	101
Pork, &c. ......lb.	12	12	..	...	...	...	12
Tobacco and Cigars.....lb.	3·4	2·7	2·1	3·5	1·8	2·0	2·8

Consumption of tobacco.

The consumption of tobacco is shown as well as that of food. The use of tobacco appears to be more prevalent in Queensland and New South Wales than in any of the other colonies, while the least consumption is in Tasmania. Compared with other parts of the world, the average consumption of Australasia will not appear excessive. The following figures are from the Dictionary of Statistics :—

Annual Consumption of Tobacco per Inhabitant :—

	Ozs.		Ozs.
United Kingdom	23	Turkey	70
France	29	Switzerland	82
Germany	72	United States	59
Russia..........................	24	India	30
Austria	80	Japan	39
Italy	22	Brazil	70
Spain and Portugal	32	Australasia......................	45
Holland and Belgium	84	New South Wales	54

Quantity of food indicative of prosperity.

Judged by the standard of food consumed, the population of New South Wales, as well as of all the other colonies of Australasia, must appear remarkably prosperous. Compared with those of other countries, this will most clearly appear from the following table, the particulars given in which, with the exception of those referring to Australasia, have been taken from Mulhall's History of Prices :—

Consumption of foods.

Consumption of Foods.

Articles of Consumption.	Australasia.	New South Wales.	Great Britain.	France.	Germany	United States.
	lb.	lb.	lb.	lb.	lb.	lb.
Grain	395	390	330	455	166	305
Meat	276	261	105	74	69	120
Sugar	89	94	72	21	21	23
Salt...................	35	38	40	30	25	39
Butter	16	16	26	7	12	18
Potatoes............	279	215	315	550	1,060	150
	oz.	oz.	oz.	oz.	oz.	oz.
Tea	120	131	73	1	1	21
Coffee...............	14	13	15	52	83	115

Thermo-dynamic of foods.

Taking only the chief articles of the foregoing list, grain, meat sugar, butter, and potatoes, and reducing them to a common basis of comparison, it will be found that the amount of thermo-dynamic power, capable of being generated by the food consumed is largely in favour of this Colony. For purpose of comparison the figures of Dr. Edward Smith, F.R.S., in his well-known work on Foods, have been used, and the heat developed has been reduced to the equivalent weight lifted 1 foot high :—

Thermo-dynamic effect of Foods per day.

	Tons lifted 1 foot high
Australasia	3,254
New South Wales	3,122
Great Britain	3,213
France	1,947
Germany	2,797
United States	1,931

The substances included in this table are largely supplemented both in America and Europe by other foods, but not more so than in these colonies ; and in the table just given will probably be found a just view of the comparative quantity and food-value of the articles of consumption in each of the countries mentioned, The comparison will appear much more strongly in favour of

Australasia when the average amount of work which each individual in the community is called upon to perform is taken into consideration. In New South Wales and indeed in all Australasia, the proportion of women and children engaged in laborious occupations is far smaller than in Europe and America, and the hours of labour of all persons are also less, so that the amount of food-energy required is reduced in proportion.

Food consumed in excess of requirements.

In Mulhall's Dictionary of Statistics, under the heading of "Diet," is given a measure of the aggregate amount of work performed by persons doing physical and mental labour, and it would appear that the food of an average man, when burnt in the body, should be equal to at least 3,300 foot tons of work daily, that of a woman 2,200, and of a child 1,100 foot tons. For this Colony the average of all persons would be about 2,125 foot tons, whereas, from the table just given, the amount of work which the daily food consumed by each individual in the Colony from the principal foods consumed is equivalent to, is not less than 3,122 foot tons. The quantity of food consumed in New South Wales would therefore appear to be far in excess of the actual requirements of the population, and though the excess may be looked upon as waste, it is none the less evidence of the wealth of the people whose circumstances permit them to indulge in it.

Foods imported.

It has already been pointed out in various parts of this work that New South Wales is adapted, by soil and climate, for the production of all the principal things which are required for the alimentation of mankind. The following table has been prepared to show what descriptions of food are imported which might be grown or manufactured in the Colony, the countries from which they are obtained, and the parts of New South Wales where they could be produced. Whether they could be raised profitably is a different question, and one which it is not proposed to discuss in this chapter.

Foods capable of being grown in New South Wales.

Adaptability of New South Wales for Food Production.

Article of consumption.	Produce of	Part of the Colony where produce could be raised.
Arrowroot	Tropical and sub-tropical climates generally.	Valleys of the coastal rivers north of the Hunter.
Cocoa	Central and South America.	In well-sheltered spots, valleys of the Richmond, Brunswick, and Tweed Rivers.
Coffee	Ceylon, Arabia, West Coast of Africa, Mexico, and Brazil.	Valleys of the northern rivers and rich brush lands.
Currants...	Asia Minor, Syria, Greece.	Wherever grapes are successfully cultivated in the Colony, and generally throughout the coastal region and the valleys of the Murray and Murrumbidgee Rivers.
Raisins.....	Asia Minor, Syria, Greece.	
Hops........	Europe, North America, Victoria, Tasmania.	In the uplands of the Monaro, Yass, and Tumut districts, the south coast, and New England.
Mustard ...	Tropical and sub-tropical climates generally.	Valleys of the coastal rivers north of the Hunter.
Olives	South of Europe and North Africa.	In almost every part of the Colony, except the cold uplands of the central division.
Rice..... ...	Asia, Madagascar, South of Europe, Southern States of America, &c.	In marshy lands, lower valleys of the coastal rivers.
Spices	Ceylon, East Indies, Southern Asia.	In selected spots, valleys of the northern coastal rivers.
Tea	Southern and Eastern Asia.	Valleys of the northern rivers.
Vanilla	Mexico, Brazil, Mauritius.	In well-sheltered spots, valleys of the northern rivers.

COST OF LIVING.

Income and expenditure.

In the year 1888 an estimate was made of the yearly expendi ture of the population of New South Wales, and it was foun that while the income amounted to 54 million pounds sterlin the expenditure amounted to 48·7 millions, the balance of 5· millions representing the savings of the people, and the earnin of absentees. The year 1888 was a period of great depressio and the expenditure of the year was probably much below t normal amount, but as no other estimate has been made, t ture of that year, proportionately distributed under various s herewith given, as some indication of the way in which ɔle of this Colony disburse their income :—

bution of Expenditure of the Population of New South Wales.

	Percentage of expenditure.
l non-alcoholic beverages	32·3
ed and spirituous liquors	9·6
	1·6
and drapery	15·3
e	1·8
value of buildings used as dwellings	12·3
ion	3·4
light	3·7
attendance and service	4·1
attendance, medicine, and nursing	1·9
, charities, education (not including State expenditure)	1·8
amusement	2·2
ewspapers, &c.	1·2
vices, postage, telegrams, succession dues	1·5
ld expenses not included elsewhere	3·2
neous expenses	4·1
	100·0

Daily expenditure.

expenditure for the year given amounted to £45 15s. 1d., the rate of 2s. 6d. per day. The daily expenditure of verage individual in New South Wales is thus dis- l :—

	Pence per day.	Proportion of Expenditure.
	11·9	39·4
	4·5	15·0
	3·5	11·6
	1·7	5·6
	8·4	28·4
	30·0	100·0

According to Mulhall the expenditure per head in the leading countries of Europe and in the United States is :—

Daily Expenditure per head in various countries.

Countries.	Expenditure per head.
	pence.
United Kingdom	20·8
France	15·4
Germany	12·8
Russia	6·6
Austria	10·1
Italy	7·6
Spain	8·4
Belgium and Holland	13·8
Scandinavia	11·1
United States	15·6
New South Wales	30·0

Cost of living and earnings.

Cost of food compared with earnings.

The table just given affords but a partial view of the question of the cost of living ; for if the total earnings of the countries above enumerated be considered as an element of comparison, it will be found that few countries approach New South Wales in the small proportion of income absorbed in providing food for the people. their people. The following table, given on the same authority as the preceding, shows that, while the actual cost of food and drink is £19 4s. in this Colony, as against £13 9s. in Great Britain and £6 3s. in Russia, the earnings required to pay for this food are not larger proportionately than in the United States or Great Britain, the countries which show most favourably in the table. The number of working days in the year is assumed to be 300, allowing for thirteen days' sickness and fifty-two Sundays :—

Comparative Cost of Food and Beverage.

Country.	Average cost per inhabitant yearly.			Ratio of Food to earnings per cent.	Days of Work equal to Food.
	£	s.	d.		
United Kingdom	13	9	0	37·8	113
France	10	8	0	40·6	122
Germany	9	5	0	51·8	155
Russia	6	3	0	60·2	180
Austria	8	8	0	53·1	159
Italy	6	6	0	53·3	160
Spain	7	11	0	56·4	169
Belgium and Holland	10	14	0	45·5	136
Denmark	11	8	0	50·6	152
Scandinavia	8	6	0	50·0	150
United States	10	9	0	37·0	111
Australasia (New South Wales)	19	4	0	37·8	113

Natural wages periods.

In the chapter of this work on employment will be found a table showing the average wages paid during each year since 1830. The years in that table are naturally divided into six periods, the first being that prior to 1836, when the element of forced convict labour materially interfered with the wages paid to free labourers; the second period, during which the system of assigning convict labour to free settlers was abolished, extends to 1843, when the great commercial crisis occurred, of which the failing of the Bank of Australia was a notable incident; the third period from 1843 to 1851 was the most depressed in the history of the Colony, but was summarily changed by the discovery of gold, the particulars of which have already been related in another part of this volume.

From 1851 to 1857 the Colony passed through the enormous excitement of the gold rush; from 1857 to 1871 was a time of transition from the golden dreams of the fourth period to the system of employment which now obtains. The following is a statement of the average wages of mechanics and servants during these periods :—

Average Wages of Mechanics and Servants.

Period.	Average daily wages of Mechanics in Building Trades.			Annual Wages with food and lodging.					
				Farm and other labourers.			Female Servants.		
	£	s.	d.	£	s.	d.	£	s.	d.
Prior to 1836	0	6	6	18	0	0	12	0	0
1836 to Great Commercial Crisis in 1843	0	7	9	22	0	0	14	0	0
1843 to Discovery of Gold in 1851	0	4	9	19	0	0	15	0	0
1851 to 1857 Gold rush	0	13	0	30	0	0	20	10	0
1857 to 1871	0	9	9	32	0	0	24	0	0
1871 to 1889	0	10	4	39	0	0	34	0	0

Improvement in style of living.

Prior to 1836 labourers were mostly emancipated convicts, whose wages were determined by a low standard of living ; from that year there was a marked tendency for wages to increase, first in obedience to an increase in prices, and also because the class of labourers and the general style of living had improved. The commercial crisis which supervened in 1843, very disastrously affected the wage-earner, depriving him of constant employment, and undoing much of the progress of the preceding years. The gold rush in 1851 and the following years brought an entirely new type of labourer to the Colony, and the liberal wages and consequent improved standard of living which soon became the rule have beneficially affected labour ever since. The figures in the table just given however show but one aspect of the case.

Beneficial effect of gold rush.

It remains to be seen how the cost of food and articles of ordinary consumption compare with the wages during each period. This may be gathered from a statement of the average prices and wages; those from 1871 to 1889 being made the standard:—

Food and Wages Level on the basis of prices from 1871 to 1889.

Period.	Price Level of common articles of consumption.	Wages Level.		
		Mechanics.	Farm and Station Hands.	Female Servants.
Prior to 1836	106	63	46	35
1836 to 1843	116	75	56	41
1843 to 1851	86	46	46	44
1851 to 1857	152	126	77	60
1857 to 1871	113	94	82	70
1871 to 1889	100	100	100	100

Nominal and real wages compared.

The wages referred to in the preceding table are the actual money wages; the amount of real wages or the purchasing power of the money wages yet remains to be stated. This affords the only true standard by which the prosperity of different times can be adequately gauged. For convenience the wages of mechanics only are given:—

Real and Money Wages Compared.

Period.	Level of Money Wages.	Level of Real Wages.
Prior to 1836	63	60
1836 to 1843	75	65
1843 to 1851	46	53
1851 to 1857	126	83
1857 to 1871	94	82
1871 to 1889	100	100

Movement in wage-prices.

From whatever point it be viewed, the worst series of years is that from 1843 to 1851, the money wages then paid being less than half the present rate, while the real wages were scarcely more satisfactory. This period which was one of untoward misfortune, gave place to the stirring times accompanying the discovery of gold, when money wages rose more than 200 per cent., and at one time averaged 75 per cent. more than wages now current. Nevertheless the period from 1851 to 1857, though so much in advance of anything previously experienced in the colony, was little better, in point of real wages, than the period which immediately succeeded, and was certainly much behind that which has elapsed since 1871. This may appear strange in view of the high wages which were paid during the gold rush, but the advance then occurring was attended by a considerable if not a commensurate increase in the price of necessaries; while since 1871 the rates of wages, and the cost of living, have moved in opposite directions, so that the condition of mechanics since the year named has been better than at any former period of the colony's history.

Improvement in condition of farm servants, &c.

The improvement in the lot of farm and station labourers and female servants is still more marked. The rise in wages of male hands has, excepting the period 1843-51, been continuous, while the increase in the pay of females has suffered no interruption even during the disastrous years preceding the gold discovery. Coincident with the rise of nominal wages which these various tables exhibit, there has been a marked advance in the standard of living of the working population of the colony, an advance even more rapid than that of wages. The cheapening of many articles of food and dress which has taken place of late years, without a corresponding fall of wages, has enabled the homes of the bulk of the population to be made more comfortable. The acquisition of comforts begets the desire for further comforts, and it is therefore unlikely that any fall in wages will be assented to which will necessitate the labouring classes decreasing the standard of living they now enjoy; on the contrary it is more than probable the standard will be still further raised. In this connection it may be pointed out that the evidence of the savings' banks of the colony cannot be taken as conclusive of the prosperity or depression of the working population, for if the standard of living indulged in be raised more rapidly than the rate of wages, it is obvious that the margin out of which savings are made will be decreased, although the actual condition of the masses may be materially advanced.

Standard of living.

CONSUMPTION OF INTOXICANTS.

The consumption of wines, spirits, and fermented liquors has been decreasing for some years, as will be seen from the following statement, showing the average consumption of spirit per inhabitant during the past seven years.

Quantity of proof alcohol.

	Gallons.		Gallons.
1883	3·52	1887	2·97
1884	3·53	1888	2·88
1885	3·37	1889	2·70
1886	3·23		

These figures represent the amount of alcohol contained in the liquor consumed, the quantities are given in proof spirit as being a measure more easily understood, if less scientific, than that of absolute alcohol.

The satisfactory state of things depicted in the foregoing table is due to a combination of causes. Five of these are most notable: the more stringent provisions of the Licensing Act, the increased duty and consequent increased cost of spirits, the decrease in the proportion of rougher labourers to the general community the

Decrease of intoxicants consumed.

depression of trade, and, lastly, the spread of teetotal principles. It were futile to attempt to determine how these causes have operated individually in decreasing the consumption of intoxicants; but the fact of such a decrease cannot be gainsaid, for the direct evidence given above is corroborated by the decline in the number of arrests.

Spirits consumed.

The volume of spirits consumed in the Colony during 1889 was 23,844 gallons of Colonial rum, and 1,135,536 gallons of imported spirits, in all 1,159,380 gallons, equal to 1·05 gallons per head—a quantity not more than two-thirds of the consumption during the year 1878, as will appear from the following table :—

Consumption of Spirits in Proof Gallons.

Year.	Quantity Consumed.		Year.	Quantity Consumed.	
	Total.	Per Inhabitant.		Total.	Per Inhabitant.
	Gallons.	Gallons.		Gallons.	Gallons.
1878	1,097,205	1·66	1884	1,257,201	1·43
1879	1,039,687	1·50	1885	1,219,024	1·30
1880	1,011,999	1·38	1886	1,172,140	1·20
1881	1,109,274	1·46	1887	1,136,863	1·11
1882	1,164,115	1·46	1888	1,164,975	1·10
1883	1,214,990	1·45	1889	1,159,380	1·05

Beer consumed.

The quantity of Colonial beer which has been consumed can only be given accurately for the last two years, though approximations have been made for the years 1885 and 1886. It will be seen that the consumption has declined considerably, in spite of the increase in population. The quantity of imported beer has, however, increased, as will be seen from the following statement.

Consumption of Beer, Porter, &c.

Year.	Colonial.	Imported.	Total.	Per Inhabitant.
	gallons.	gallons.	gallons.	gallons.
1885	11,000,000	1,839,500	12,839,500	13·79
1886	10,000,000	2,075,000	12,075,000	12·32
1887	9,720,000	2,126,000	11,846,000	11·69
1888	9,300,000	2,413,000	11,713,000	11·01
1889	9,515,000	2,514,000	12,029,000	10·89

Falling off in consumption of beer.

The amount of beer drunk in 1885 was approximately 12,839,500 gallons, of which 11,000,000 gallons were the produce of the Colony, representing 85·7 per cent. of the total consumption. In 1889 the quantity had fallen to 12,029,000 gallons, and the proportion, locally made to 79·1 per cent. During the same period the consumption per head had declined from 13·79 gallons to 10·89.

Consumption of wine.

The wine drunk in the Colony is mostly the produce of its own vineyards, but it is nevertheless much less than might have been expected in a country so eminently adapted to wine-growing a New South Wales, and amounts to only about half that drunk in Victoria. The consumption of Australian and European wines for the past ten years is given in the following table :—

Consumption of Wine.

Year.	Australian.	Foreign.	Total.	Per Inhabitant.
	gallons.	gallons.	gallons.	
1880	705,992	154,190	860,182	1·18
1881	579,630	172,846	752,476	0·99
1882	491,263	186,006	677,269	0·85
1883	500,308	182,613	682,921	0·82
1884	560,447	188,069	748,516	0·85
1885	414,113	193,642	607,755	0·65
1886	531,253	173,995	705,248	0·72
1887	584,179	161,033	745,212	0·73
1888	625,359	180,502	805,861	0·76
1889	747,435	170,526	917,961	0·83

Expenditure on liquors.

The amount expended upon wines, spirits, and fermented liquors, consumed in the Colony during the year 1889, was about £4,765,000. Of this sum £3,345,000 was the cost of liquors to the retailer, of which £1,174,000 represents duty, excise, and license fees, and £2,192,000 the invoice price of the goods. The cost of working the trade and the profits of the merchants and retailers therefore came to £1,420,000. The expenditure on liquors per inhabitant amounted to £4 6s. 4d. during the year, which, though undoubtedly a large sum, amounting, as it does, to 7·7 per cent. of the average income, is nevertheless proportionately smaller than the expenditure of several European countries. The following table gives the rate per inhabitant and the proportion of income devoted to liquors. The figures should, however, be taken with this qualification, that in several of the countries enumerated, liquors are consumed principally with meals in place of tea or coffee, so largely partaken of in English-speaking countries :—

Yearly Amount expended on Liquors in various Countries.

Countries.	Amount per inhabitant. £	s.	d.	Percentage of income.
United Kingdom	2	18	0	8·2
France	1	19	0	7·7
Germany	1	14	0	9·4
Russia	1	0	0	9·9
Austria	1	13	0	10·5
Italy	1	5	0	10·7
Spain	1	5	0	9·1
Belgium and Holland	2	0	0	8·5
Denmark	2	10	0	11·1
Scandinavia	1	6	0	7·7
United States	1	10	0	4·2
New South Wales	4	6	0	7·7
Victoria	5	5	0	......

Consumption of liquors in Australasia.

As pointed out in the part of this volume relating to crime, the consumption of intoxicants in this Colony is less than in Victoria and Queensland, and equal to the average of all Australasia.

The following table shows the consumption for all the colonies. The figures for New South Wales refer to 1889, and those of the other colonies to 1888. The largest consumption of spirits per inhabitant is in Queensland, Victoria being second. Wine is used most freely in South Australia and Victoria, and beer in the same two colonies. The average consumption of alcohol in all the colonies amounts to 2·99 gallons of proof spirit per inhabitant, ranging from 4·11 gallons in Victoria to 1·79 gallons in New Zealand. The total for Victoria shows a large increase over the consumption of previous years, and is 52 per cent. larger than that of New South Wales. It may be that the occurrence of the International Exhibition in Melbourne during the year to which the figures refer tended to raise the consumption above the normal average. The consumption of alcohol in Victoria during 1886 was 3·68 proof gallons, and in 1887, 3·77 :—

Consumption of Alcohol in each Colony.

Consumption of Intoxicants in the Australasian Colonies.

Colony.	Spirits.		Wine.		Beer, &c.		Equivalent in Alcohol (proof) per inhabitant.
	Total.	Per inhabitant.	Total.	Per inhabitant.	Total.	Per inhabitant.	
	galls.	galls.	galls.	galls.	galls.	galls.	galls.
New South Wales	1,159,380	1·05	917,961	0·83	12,029,000	10·89	2·70
Victoria	1,281,223	1·20	1,166,959	1·10	21,080,329	19·82	4·11
Queensland	636,130	1·69	215,446	0·57	4,167,495	11·05	3·28
New Zealand............	500,126	0·82	101,170	0·17	4,318,677	7·13	1·79
South Australia	170,973	0·54	370,132	1·16	4,474,996	14·07	2·71
Tasmania	92,783	0·64	22,833	0·16	1,213,717	8·41	1·89
Total and Means	3,840,615	1·06	2,794,501	0·77	47,284,214	13·09	2·99

Taking Australasia as a whole it compares very favourably with most of the European countries in the quantity of intoxicants annually consumed by each inhabitant, as the following statement shows. The figures are reduced to gallons of proof spirit from data given in Mulhall's Dictionary of Statistics, and would

According to Mulhall the expenditure per head
countries of Europe and in the United States is :—

Daily Expenditure per head in various

Countries.
United Kingdom
France
Germany
Russia
Austria
Italy
Spain
Belgium and Holland
Scandinavia
United States
New South Wales

Cost of living and earnings.

Cost of food compared with earnings.

The table just given affords but a partial view
the cost of living; for if the total earnings of
enumerated be considered as an element of
found that few countries approach New South
proportion of income absorbed in providing
their people. The following table, given on the
the preceding, shows that, while the actual cost
is £19 4s. in this Colony, as against £13 9s.
and £6 3s. in Russia, the earnings required to
not larger proportionately than in the United
Britain, the countries which show most favour
The number of working days in the year is
allowing for thirteen days' sickness and fifty-

Year.	Wheat per bushel.		Bread, 2 lb. loaf.		Rice per lb.		Oat-meal per lb.		Tea per lb.		Sugar per lb.		Coffee per lb.		Beef per lb.		Butter per lb. (fresh.)		Butter per lb. (salt.)		Cheese per lb. (Col.)		Salt per lb.		Pota-toes per cwt.		Beer (Col.) per gall.		Candles per lb.		Soap per lb.		Starch per lb.		Tobacco per lb. (Col.)		Tobacco per lb. (Imp.)	
	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.
1836	8	6		..	0	9		...	2	6	0	3½		...	0	3	2	3	1	9	1	0		...	10	6		...		...	0	4½		...		...	3	3
1837	8	9		...		...		...	1	9	0	4	1	6	0	4½	2	6	1	9	1	0	0	1		..	1	0		...		...		...		...	4	0
1838	8	0		...		...		...		..		...		...		...		...		...		...		...		...		...		...		...		...		...		...
1839	17	4		...		...		...	2	6	0	3½	1	6	0	3		...		...		...		...		...		...		...	0	4½		...		...	3	3
1840	6	6		...		...		...	2	6	0	3½	1	4	0	4½		...		...		...		...		...		...		...	0	4½		...		...	3	3
1841	5	6		...		...		...	2	6	0	3½	1	4	0	4½		...		...		...		..		...		...		...	0	4½		...		...	3	3
1842	6	6	0	4½	0	2		...	2	6	0	3½	1	4	0	3½	2	6	2	0	1	1½	0	1	16	0	1	9		...	0	4½		...		...	3	6
1843	4	3	0	3½	0	1½		...	2	6	0	3	0	10	0	2½	1	9	1	0	0	9	0	0½	7	6	2	3		...		...		...	1	4	3	6
1844	4	0	0	2¾	0	1¾		...	1	5	0	2½	0	8½	0	2	1	5	0	9	0	4½	0	1¼	4	6	1	3	0	3½	0	3¾		...	1	6	3	6
1845	4	3	0	3	0	3		...	1	6	0	3	0	7½	0	2½	1	6	1	0	0	6	0	1½	4	6	1	1	0	4	0	3½		...	1	6	4	6
1846	5	0	0	4	0	1½		...	2	3	0	4	0	10	0	2¼	1	8	1	3	0	6	0	1½	6	2	2	0	0	4¼	0	5		...	1	9	4	6
1847	5	0	0	4	0	3¾	0	6	2	4	0	4	1	1	0	2	1	2	1	0	0	7	0	1½	5	6	3	4	0	6	0	5	1	0	1	9	4	4
1848	5	0	0	4	0	3½	0	6	2	0	0	3¾	1	1	0	2	1	1	0	11	0	8	0	1½	6	0	3	3	0	6	0	5	1	0	1	9	4	4
1849	4	0	0	3½	0	3¾	0	5¾	1	9	0	3¾	1	0	0	1¾	1	2	1	0	0	6¼	0	1½	6	2½	2	8	0	6	0	5¼	1	1	2	0	4	7
1850	4	0	0	3½	0	4	0	6	1	10	0	3½	1	2	0	1¾	1	3	1	0	0	7	0	1¾	7	0	2	9	0	6	0	5½	1	0	2	7	4	10
1851	8	6	0	6¼	0	4	0	6	1	4	0	3½	1	3	0	2¾	1	3	1	0	0	7	0	1½	6	0	2	6	0	5¾	0	5¼	1	0	3	8	7	9
1852	6	0	0	6¼	0	4	0	6	1	4	0	3½	1	3	0	3	1	3	1	0	0	7	0	1½	6	0	2	6	0	6	0	6	1	0	4	0	8	0
1853	6	9	0	6¼	0	4¼	0	6	1	4	0	3½	1	3	0	3½	1	5¼	1	1½	0	7¼	0	1½	13	0	2	4½	0	6	0	6	1	0	4	0	7	6
1854	11	6	0	9	0	5	0	7½	2	6	0	5	1	6	0	4½	2	3	2	0	0	9	0	2½	18	6	3	6	0	8½	0	8	1	6	4	0	5	6
1855	16	5	0	11	0	6	0	9	2	5	0	7	1	8	0	6	2	4	2	0	1	3	0	4	21	4	4	7	0	10	0	8	1	6	3	0	5	0
1856	11	3	0	8¾	0	5¼	0	7	2	2¼	0	5½	1	7¼	0	3½	1	11	1	9	1	2	0	3	10	0	3	6	0	9¾	0	7¼	1	1¼	2	6½	5	3
1857	7	4	0	6	0	5	0	7	2	6	0	7½	1	8	0	3½	2	0	1	9	1	0	0	2¾	14	6	4	0	0	9	0	7	1	0	2	7	5	0
1858	10	3	0	8	0	6	0	7	2	6	0	7	1	8	0	4	2	0	1	9	1	0	0	4½	15	6	4	3	0	9½	0	7	1	5	2	6	5	0
1859	8	6	0	8½	0	4¼	0	7	2	6	0	5	1	8	0	4	1	10	1	6	1	0	0	2½	8	0	4	0	0	10½	0	6½	1	0	2	6	5	0
1860	8	0	0	6½	0	5	0	6	2	3	0	5½	1	6	0	4	1	6	1	4	0	10	0	2½	7	6	3	6	0	9½	0	7	1	0	2	3	5	0
1861	6	6	0	6½	0	4	0	6	2	4	0	5½	1	6	0	3	1	8	1	4	0	9	0	2½	7	3	3	6	0	7½	0	6	0	10½	2	0	5	6
1862	7	0	0	4½	0	3	0	5	2	0	0	4½	1	5	0	4½	2	3	1	0	0	9	0	1½	8	0	2	0	0	7	0	4½	0	8	1	6	6	0

AVERAGE Retail Prices—*continued.*

Year.	Wheat per bushel.		Bread, 2 lb. loaf.		Rice per lb		Oat-meal per lb.		Tea per lb		Sugar per lb.		Coffee per lb.		Beef per lb.		Butter per lb. (fresh.)		Butter per lb. (salt.)		Cheese per lb. (Col.)		Salt per lb.		Potatoes per cwt.		Beer (Col.) per gall.		Candles per lb.		Soap per lb.		Starch per lb.		Tobacco per lb. (Col.)		Tobacco per lb. (Imp.)	
	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.
1863	6	6	0	4	0	3	0	4	2	0	0	4½	1	4	0	4¼	1	6	1	0	0	10	0	1¼	7	0	1	6	0	7	0	4	0	7	3	0	7	6
1864	7	0	0	5½	0	3	0	4	2	0	0	4½	1	4	0	4	1	6	1	0	0	8	0	1½	5	0	2	0	0	7	0	4	0	8	1	6	5	6
1865	9	6	0	7½	0	3	0	4	2	0	0	4½	1	4	0	3	1	9	1	6	0	9	0	1½	8	0	2	0	0	7	0	4	0	8	2	6	5	6
1866	8	4	0	6½	0	4	0	4	2	6	0	4	1	4	0	3	1	3	1	0	1	0	0	1½	6	0	2	0	0	7	0	4½	0	7	2	6	5	0
1867	4	3	0	3½	0	3½	0	4	2	0	0	4	1	4	0	2½	1	6	1	3	0	7½	0	1	7	0	1	6	0	6	0	4	0	7	1	9	4	6
1868	5	9	0	4	0	4	0	4	2	0	0	4	1	4	0	3½	1	3	0	10	0	9	0	1½	9	0	2	0	0	6	0	4	0	7	1	9	5	0
1869	4	9	0	3½	0	3	0	4	2	0	0	4	1	0	0	2	1	6	1	3	0	6	0	1	4	0	1	4	0	5	0	4	0	8	1	0	3	6
1870	5	0	0	3½	0	3	0	4	2	0	0	4	1	2	0	3½	1	3	1	0	0	6	0	1	5	0	1	4	0	5	0	4	0	7	1	3	3	6
1871	5	7	0	3½	0	2½	0	2½	2	3	0	4	1	0	0	2½	1	3	1	0	0	7½	0	0½	4	0	2	3	0	5	0	3	0	4½	1	0	3	0
1872	5	0	0	3½	0	3	0	3	1	9	0	4	1	1	0	2½	1	0	0	10½	0	9	0	0¾	5	0	1	4	0	5	0	3	0	5	1	4	3	6
1873	5	1	0	4	0	2½	0	2¾	1	9	0	4	1	2	0	2½	1	3	1	0	0	5	0	0½	3	6	2	3	0	5	0	3	0	5	2	0	3	6
1874	6	9	0	3½	0	3	0	3¾	1	9	0	4	1	4	0	4	1	7	1	4	0	6	0	0½	4	9	2	0	0	4½	0	2¾	0	6	1	9	3	3
1875	4	7	0	3	0	3	0	3	1	9	0	4½	1	2	0	3½	1	3	1	0	0	9	0	1½	5	6	3	0	0	4½	0	3	0	5	2	0	3	9
1876	5	1	0	3½	0	3	0	3	1	9	0	4	1	2	0	5½	1	3	1	3	0	7	0	1	4	9	2	0	0	5	0	2¾	0	5	1	9	3	0
1877	6	1	0	4	0	3	0	3¼	2	0	0	4	1	3	0	4½	1	6	1	3	0	6	0	1	4	9	2	0	0	5	0	2¾	0	5	2	0	3	6
1878	6	1	0	4	0	3	0	3	1	9	0	4	1	3	0	4	1	3	1	0	0	6	0	0½	5	10	2	0	0	5	0	2	0	5	1	6	3	0
1879	5	0	0	3½	0	2½	0	2¼	1	6	0	3½	1	0	0	4	0	10½	0	8	0	6	0	0½	6	0	2	0	0	4½	0	2	0	5	1	6	3	9
1880	4	8	0	3	0	3	0	3	2	0	0	4	1	5	0	3½	0	10	0	8	0	7	0	0¾	4	3	2	0	0	5½	0	3	0	5½	2	0	4	0
1881	4	1	0	3½	0	3	0	3	2	0	0	3½	1	5	0	3½	0	10½	0	7	0	6½	0	0¾	4	0	2	0	0	5½	0	3	0	5½	2	0	4	0
1882	5	5	0	4	0	3¼	0	4	2	0	0	4	1	5	0	4½	1	3	1	3	0	8	0	1	5	6	2	0	0	6	0	2½	0	6	3	0	5	0
1883	5	2	0	3½	0	3	0	4	2	0	0	4	1	9	0	4	1	6	1	3	1	0	0	1	5	0	2	0	0	6	0	3	0	7	3	0	6	0
1884	4	3	0	3	0	2½	0	3	1	6	0	3½	1	4	0	4½	1	3	1	0	0	9	0	1	5	0	2	0	0	5	0	3	0	6	3	0	5	0
1885	3	10	0	3	0	3	0	3	1	9	0	3	1	5	0	4½	1	6	1	3	1	3	0	0¾	6	0	2	0	0	5½	0	3	0	6½	3	0	6	0
1886	4	3	0	3½	0	3¼	0	2¾	1	9	0	3½	1	6	0	4½	2	0	1	8	1	1	0	1	6	9	2	0	0	9½	0	4	0	6½	4	0	5	0
1887	3	10	0	3½	0	3	0	2¾	1	9	0	3½	1	6	0	4	1	3	0	11½	0	10½	0	1	5	6	2	0	0	8½	0	3½	0	6½	4	0	5	0
1888	3	6	0	3	0	3	0	2½	1	6	0	3½	1	6	0	4½	1	11	1	8	0	8½	0	1	7	0	2	0	0	8	0	3¼	0	6	4	0	5	0
1889	4	8	0	3½	0	3	0	3¼	1	6	0	3¼	1	6	...		...		...		...		...		...		...		...		...		...		...		...	

Wholesale Prices.

Month.	Hay.		Chaff.		Straw.	Cereals.						
						Feed Grains.			Wheat.			
	Oaten or Wheaten per ton.	Lucerne, per ton.	Oaten, per ton.	Other, per ton.	Clean, per ton.	Maize, per bushel.	Oats, per bushel.	Cape Barley, per bushel.	N. S. Wales, per bushel.	New Zealand, per bushel.	S. Australian or Victorian, per bushel.	Californian, per bushel.
1889.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
January	6 4 0	3 13 5	6 12 10	4 8 0	4 5 0	3 5½	3 10	4 0	...	4 9	5 0	4 8
February	6 1 0	3 17 0	6 10 8	4 13 0	4 6 0	3 6	3 3¼	3 9	...	4 5¼	4 10¼	...
March	6 3 9	4 8 6	6 10 9	3 8 6	4 0 6	3 2	3 2½	3 2½	...	4 6¼	5 5	4 8
April	6 17 0	4 9 7	7 12 10	4 11 0	4 16 9	3 5	3 5½	3 5½	...	4 6	5 5½	4 9
May	7 12 9	5 6 2	7 15 0	5 0 9	4 10 0	3 4½	3 5¾	3 5½	...	4 7½	5 5½	4 11
June	7 8 4	5 7 0	7 12 7	5 1 6	4 15 11	3 3	3 1½	3 2¼	...	4 4½	5 2½	4 4½
July	6 5 1	5 7 6	6 7 5	4 17 4	4 2 0	3 2¼	3 2	3 1½	...	4 2	5 2¼	4 2
August	5 6 0	4 7 0	6 5 0	4 15 0	4 0 0	3 1½	3 0	3 1	...	4 1¼	5 2¾	4 6¾
September	4 17 2	3 14 9	6 1 1	4 0 0	3 3 10	3 1½	3 0	3 2	...	4 0½	5 3½	4 5¼
October	4 7 0	2 18 7	5 16 0	......	3 1 6	3 3¼	3 0	3 2	...	4 7¼	4 10¼	4 6½
November	4 5 6	3 0 2½	5 6 8	......	2 3 2	3 0½	2 6¼	3 0	...	4 8½	4 11	4 8
December	3 12 6	2 11 6	4 12 3	......	3 1 8	3 5½	2 4½	3 0	3 6¾	3 9½	4 1½	...
Mean	5 15 0	4 1 9	6 8 7	4 10 6	3 17 2	3 3¼	3 1½	3 3½	3 6¾	4 4	5 1	4 6¾

WHOLESALE PRICES.

Month.	Milled Produce.																Root Crops.							Dairy Produce.					Apiary.	
	Flour.																													
	New Zealand, per ton.			S. Australian or Victorian, per ton.			N. S. Wales, per ton.			Australian Brands, per ton.			Bran, per bushel.		Pollard, per bushel.		Potatoes, per ton.			Onions, per ton.			Carrots, per doz. bundles.	Butter (Fresh), per lb.	Cheese, per lb.	Eggs, per dozen.	Bacon, per lb.	Ham, per lb.	Honey, per lb.	Beeswax, per lb.
1889.	£	s.	d.	£	* s.	d.	£	s.	d.	£	* s.	d.	s.	d.	s.	d.	£	s.	d.	£	s.	d.	d.	d.	d.	d.	d.	d.	d.	d.
January	......			......			......			12	6	4¾	0	11¼	1	0	14	12	7½	14	0	0	15½	11¾	8	14¼	8	10¼	4	10½
February ...	......			......			......			11	11	6	0	11	1	1	8	13	6½	12	15	0	12¾	10¾	6½	18	8¼	11	4	10½
March	11	12	6	......			......			12	14	7	1	1½	1	3½	5	8	4	12	7	6	13¾	16	6	19	9	11	4	10½
April	10	3	9	......			......			12	10	0	1	1¾	1	3	4	19	3	15	11	9	13½	18½	6¾	22½	7¾	10	4	10½
May	11	10	0	......			......			12	10	0	1	1	1	2¼	4	12	2¼	15	3	9	11½	16¾	6¾	24¼	8¼	10½	4	10
June	10	17	0	......			......			12	7	6	1	1	1	2¾	5	6	8	22	7	6	10½	13½	6½	18¼	8½	11	4	10
July	10	7	6	12	2	3	11	13	4	......			0	11¾	1	0	5	10	0	27	0	0	10½	15½	6½	12½	6	9	4	10
August	10	4	6	12	2	1	11	10	0	......			0	10	0	10	5	16	9	31	2	6	13¼	11	6½	10⅛	6	9	4	10
September...	10	4	10	12	3	9	11	10	0	......			0	9	0	8½	5	16	9	32	0	0	14	10	6½	10⅛	6	9	4	10
October	9	16	3	12	2	0	11	17	6	......			0	8¼	0	8	6	17	11	33	10	0	15½	9¾	6	9¾	6¼	9	3¾	10
November ...	10	0	0	12	2	4	11	9	4	......			0	8½	0	8¼	5	18	4	16	6	8	11	8½	5½	11¾	8½	9½	4	10
December ..	9	18	9	11	5	10	......			......			0	7	0	7	3	13	4	5	16	3	10	8¾	5½	15½	10¾	10¾	4	10
Mean	10	9	6	11	9	8½†	11	12	0½	12	6	8	0	10¾	0	11½	6	8	9½	19	13	5	12¾	12½	6½	15½	7¾	10	4	10⅙

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* Assuming that "Australian brands" and "South Australian," "Victorian" are the same, the average price for this class would be £12 3s. 9d. for the 12 months. These prices are the mean of both roller and stone ground flours. The difference in price ranges from £2 in very superior to 10s. in New Zealand sorts, but is commonly about £1.

† Or £12 7s. 9d., taking Australian brands, for the first 6 months.

Comparative Cost of Food and Beverage.

Country.	Average cost per inhabitant yearly.			Ratio of Food to earnings per cent.	Days of Work equal to Food.
	£	s.	d.		
United Kingdom	13	9	0	37·8	113
France	10	8	0	40·6	122
Germany	9	5	0	51·8	155
Russia	6	3	0	60·2	180
Austria	8	8	0	53·1	159
Italy	6	6	0	53·3	160
Spain	7	11	0	56·4	169
Belgium and Holland	10	14	0	45·5	136
Denmark	11	8	0	50·6	152
Scandinavia	8	6	0	50·0	150
United States	10	9	0	37·0	111
Australasia (New South Wales)	19	4	0	37·8	113

Natural wages periods.

In the chapter of this work on employment will be found a table showing the average wages paid during each year since 1830. The years in that table are naturally divided into six periods, the first being that prior to 1836, when the element of forced convict labour materially interfered with the wages paid to free labourers; the second period, during which the system of assigning convict labour to free settlers was abolished, extends to 1843, when the great commercial crisis occurred, of which the failing of the Bank of Australia was a notable incident; the third period from 1843 to 1851 was the most depressed in the history of the Colony, but was summarily changed by the discovery of gold, the particulars of which have already been related in another part of this volume.

From 1851 to 1857 the Colony passed through the enormous excitement of the gold rush; from 1857 to 1871 was a time of transition from the golden dreams of the fourth period to the

PART XIV.

Population and Vital Statistics.

N.S.W. the most populous colony.

THE population of New South Wales about the middle of the year 1887 was more numerous than that of any other Colony of the Australasian group. The first position in regard to population was assumed by Victoria in 1854, when that Colony contained within her borders a larger number of persons than New South Wales, which then included the large territory of Queensland. Year by year the gap between the Mother Colony and her vigorous offspring widened, until in 1871 the census showed that the population of New South Wales was 227,547 or over 31 per cent. less than that of Victoria. Since then the difference gradually lessened, until, during 1887, it entirely disappeared; and although towards the end of 1888, owing to the attraction of the Melbourne International Exhibition, Victoria regained her supremacy as the most populous Colony, this was only maintained for a few months, and the estimated populations of the two colonies at the close of 1889 showed a difference of 4,172 in favour of New South Wales. It seems very unlikely that the smaller territory will ever again attain the leading position nains to be seen how the cost of food and articles of ordinary mption compare with the wages during each period. This be gathered from a statement of the average prices and ; those from 1871 to 1889 being made the standard :—

and Wages Level on the basis of prices from 1871 to 1889.

Period.	Price Level of common articles of consumption.	Wages Level.		
		Mechanics.	Farm and Station Hands.	Female Servants.
to 1836	106	63	46	35
o 1843	116	75	56	41
o 1851	86	46	46	44
o 1857	152	126	77	60
o 1871	113	94	82	70
o 1889	100	100	100	100

Nominal and real wages compared.

wages referred to in the preceding table are the actual wages ; the amount of real wages or the purchasing power money wages yet remains to be stated. This affords the rue standard by which the prosperity of different times can quately gauged. For convenience the wages of mechanics re given :—

Real and Money Wages Compared.

Period.	Level of Money Wages.	Level of Real Wages.
o 1836	63	60
1843	75	65
1851	46	53
1857	126	83
1871	94	82
1889	100	100

Estimated population of the Colony.

The estimated population of the Colony at the close of each year, from 1861 to 1889, will be found hereunder:—

Population of New South Wales.

Year.	Males.	Females.	Total.
1861	201,574	156,404	357,978
1862	204,199	162,522	366,721
1863	207,560	170,152	377,712
1864	213,365	177,499	390,864
1865	223,254	185,893	409,147
1866	235,116	193,697	428,813
1867	243,131	201,578	444,709
1868	254,003	209,185	463,188
1869	263,899	217,549	481,448
1870	272,543	226,116	498,659
1871	282,846	234,912	517,758
1872	292,015	243,204	535,219
1873	301,399	252,434	553,833
1874	312,843	262,100	574,943
1875	323,080	271,217	594,297
1876	333,515	280,666	614,181
1877	350,329	293,378	643,707
1878	365,625	306,263	671,888
1879	386,926	322,533	709,459
1880	405,277	336,616	741,893
1881	426,944	351,746	778,690
1882	443,314	367,519	810,833
1883	470,009	387,735	857,744
1884	495,571	408,377	903,948
1885	527,533	430,381	957,914
1886	551,343	450,623	1,001,966
1887	574,012	468,907	1,042,919
1888	599,107	486,633	1,085,740
1889	618,300	503,900	1.122,200

Change in relative population of N.S.W. and Victoria.

Three causes have combined to bring about the satisfactory change which has reversed the relative positions of Victoria and New South Wales in regard to population—the natural increase by births over deaths; the selection of this Colony as a place of settlement by a large number of unassisted immigrants; and the assistance given by the Government to persons in the United Kingdom, and elsewhere, to make New South Wales their home. Regarding the first of these causes, it may be mentioned that, owing to its high birth-rate and comparatively low death-rate, the Colony now receives yearly an addition to its population of between 5,000 and 6,000 more than its southern neighbour.

Annual increase.

The increase of population, from the excess of births and immigration, over deaths and departures, has been fairly regular. In 1879, the year of the Sydney International Exhibition, there was a very marked increase in the excess of arrivals over departures; and though, as would naturally be expected, the subsequent year showed a falling off, the impetus given by the Exhibition to immigration to the Colony is still felt.

Largest increase in 1885.

The largest increase of population in any one year occurred in 1885, when, owing to the depression prevailing in some of the neighbouring colonies, large numbers of adult males flocked to New South Wales, in search of a livelihood they could scarcely obtain elsewhere. The result of this influx was felt during the following years in the congestion of the local labour market. Numbers of persons were unable to find employment, and their circumstances were considerably aggravated by several unfortunate seasons which the Colony has since experienced.

Net increase.

The following table gives the net increase of male and female population during each year since 1871, after allowing for the number of persons whose departure from the Colony was not formally recorded.

Increase of Population.

Year.	Males.	Females.	Total.	Year.	Males.	Females.	Total
1871	10,303	8,796	19,099	1881	21,667	15,130	36,797
1872	9,169	8,292	17,461	1882	16,370	15,773	32,143
1873	9,384	9,230	18,614	1883	26,695	20,216	46,911
1874	11,444	9,666	21,110	1884	25,562	20,642	46,204
1875	10,237	9,117	19,354	1885	31,962	22,004	53,966
1876	10,435	9,449	19,884	1886	23,810	20,242	44,052
1877	16,814	12,712	29,526	1887	22,669	18,284	40,953
1878	15,296	12,885	28,181	1888	25,095	17,726	42,821
1879	21,301	16,270	37,571	1889	19,193	17,267	36,460
1880	18,351	14,083	32,434				

Annual rate of increase—Australasia.

In the following table will be found the rate at which population has increased during each of the last ten years, in the various colonies, the average rate for Australasia being 3·73 per cent.

Growth of Population.—Increase per cent. per annum.

	New South Wales.	Victoria.	Queensland.	South Australia.	Western Australia.	Tasmania.	New Zealand.
1880	4·57	2·34	3·12	3·13	1·22	2·04	4·56
1881	4 96	2·32	4·30	7·01	3·43	3·63	3·31
1882	4·13	2·27	9·38	2·51	2·51	2·99	3·35
1883	5·79	2·39	15·80	3·75	3·04	3·05	4·48
1884	5·39	2·64	5·08	2·71	3·97	3·42	3·00
1885	5·97	2·65	4·43	0·21	6·76	2·49	3·25
1886	4·60	3·29	8·60	— 0·21	12 50	2·56	2·46
1887	4·09	3 30	7·10	1·50	7·34	3·84	2·37
1888	4·10	5·28	5·59	0·27	— 0·83	2·58	0·67
1889	3·36	2·49	4·95	1·94	3·70	3·65	2·12
Mean of 10 years.	4·69	2·89	6·78	2·26	4·31	3·02	2·95

Minus sign (—) denotes a decrease.

e growth of population in the continent of Australia, and in the whole of Australasia, from 1860 to the end of last is shown in the following table :—

Population of Australia and Australasia.

Year.	Continent of Australia.	Australasia.
1860	1,054,061	1,221,547
1861	1,076,666	1,265,898
1862	1,118,249	1,334,789
1863	1,168,761	1,424,328
1864	1,231,715	1,497,180
1865	1,293,507	1,579,315
1866	1,345,058	1,646,540
1867	1,389,383	1,706,506
1868	1,442,736	1,770,060
1869	1,495,196	1,834,037
1870	1,549,407	1,898,572
1871	1,601,295	1,970,066
1872	1,645,479	2,027,964
1873	1,696,398	2,096,561
1874	1,752,566	2,198,602
1875	1,804,135	2,283,654
1876	1,855,996	2,360,555
1877	1,926,987	2,451,713
1878	1,981,730	2,524,196
1879	2,049,224	2,625,422
1880	2,116,156	2,715,782
1881	2,202,213	2,822,046
1882	2,283,585	2,923,771
1883	2,403,177	3,070,274
1884	2,505,645	3,193,296
1885	2,600,074	3,309,037
1856	2,699,965	3,426,562
1887	2,805,912	3,551,751
1888	2,924,517	3,678,046
1889	3,015,068	3,786,827

Marked advantages of N.S.W. to settlers.

As tested by the voluntary influx of population the advantages which New South Wales has for many years offered to the settler are most marked, and no test could be more practical. As long as the balance of attraction remained with the other colonies, so long did the tide of immigration set to their shores; but for many years past New South Wales has offered a more substantial reward to the settler than any of its neighbours, and the result is seen in the increased numbers who have come hither.

Voluntary influx a test of prosperity.

Taking the period from the beginning of 1871 to the close of 1889, the total excess of arrivals over departures (allowing also for unrecorded departures) in all the Australasian colonies amounted to 800,542; of this number not less than 298,721, or 37·31 per cent. found a home in New South Wales. Only 103,749, or 12·96 per cent., went to Victoria; 198,773 (24·83 per cent.) to Queensland; 148,940 (18·61 per cent.) to New Zealand; 13,010 (1·63 per cent.) to Tasmania; 8,269 (1·03 per cent.) to Western Australia; and 29,080 (3·63 per cent.) to South Australia. No more eloquent tribute could be paid to the resources of New South Wales than is conveyed by the bare statement of these figures.

Since 1860, the year following the separation of Queensland, the arrivals in New South Wales have in every year exceeded the departures. The greatest apparent excess during any one year was in 1885, when the number of arrivals was greater than the departures by 39,683. From the date of the separation of Queensland to the close of the year 1889, the Colony has benefited by arrivals to the extent of about 438,859. The total number of persons arriving here during the period just mentioned was 1,136,171, and of this number 79,416, or 7 per cent., were State assisted.

Assisted Immigration.

Assisted immigration dates from 1832, and continued to be the settled policy of the country, with slight interruptions, until its practical cessation during 1888. The number of assisted immigrants arriving in New South Wales from 1860 to the close of 1889 will be found herewith.

Assisted Immigrants.

r.	Adults.			Children under 12 Years.			Total.
	Males.	Females.	Total.	Males.	Females.	Total.	
0	1,351	1,235	2,586	245	258	503	3,089
1	794	595	1,389	101	99	200	1,589
2	1,172	1,047	2,219	214	198	412	2,631
3	1,966	1,872	3,838	391	404	795	4,633
4	1,701	1,672	3,373	289	315	604	3,977
5	1,073	1,214	2.287	213	217	430	2,717
6	501	543	1,044	92	68	160	1,204
7	385	435	820	66	58	124	944
8	183	215	398	41	31	72	470
9	......	47	47	......	......	......	47
70	......	......	......	......	......	......	......
71	28	299	327	15	15	30	357
72	25	271	296	16	14	30	326
73	13	119	122	3	5	8	140
74	427	411	838	109	133	242	1,080
75	395	324	719	135	119	254	973
76	642	429	1,071	208	184	392	1,463
77	2,892	1,627	4,519	743	756	1,499	6,018
78	2,091	1,754	3,845	699	646	1,345	5,190
79	1,906	2,141	4,047	840	844	1,684	5,731
0	1,150	1,195	2,345	414	375	789	3,134
1	929	1,029	1,958	327	292	619	2,577
2	1,209	991	2,200	509	524	1,033	3,233
3	3,370	2,718	6,088	1,154	1,127	2,281	8,369
4	2,785	2,606	5,391	1,095	1,082	2,177	7,568
5	1,871	2,211	4,082	736	736	1,472	5,554
6	1,044	1,905	2,949	572	560	1,132	4,081
7	131	687	818	286	258	544	1,362
8	58	190	248	149	131	280	528
9	44	168	212	104	115	219	431
al ...	30,136	29,950	60,086	9,766	9,564	19,330	79,416

Birthplaces of immigrants.

e birthplaces of immigrants cannot in all cases be accurately nined, but it is quite clear, from the different census returns, the great bulk have come from the United Kingdom, as will atly appear. A record, however, has been kept of the native ries of immigrants who were assisted by Government, and e 79,416 persons enumerated in the foregoing table, 77,709 British born—37,433 being from England and Wales; 4 from Ireland; and 8,472 from Scotland; and the remainder, , from other countries.

The total number of persons arriving in the Colony by sea, and also the number departing therefrom, during each year from 1860 to 1889, are hereunder notified :—

Arrivals and departures by sea.

Year.	Immigration.			Emigration.		
	Males.	Females.	Total.	Males.	Females.	Total.
1860	18,963	4,068	23,031	5,368	1,479	6,847
1861	10,452	2,969	13,421	10,733	2,467	13,200
1862	11,356	4,030	15,386	11,965	3,114	15,079
1863	11,130	5,079	16,209	11,033	2,763	13,796
1864	15,384	5,283	20,667	13,582	3,866	17,448
1865	20,055	6,211	26,266	14,096	4,058	18,154
1866	19,499	6,029	25,528	11,312	3,781	15,093
1867	14,495	5,477	19,972	10,038	3,412	13,450
1868	21,903	4,661	26,564	15,279	3,400	18,679
1869	15,005	4,751	19,756	10,314	3,403	13,717
1870	13,745	4,876	18,621	10,400	3,806	14,206
1871	14,756	5,064	19,820	9,402	3,572	12,974
1872	18,550	5,557	24,107	12,855	4,026	16,881
1873	17,632	6,390	24,022	12,336	4,434	16,770
1874	22,381	7,375	29,756	14,564	4,715	19,279
1875	23,003	7,964	30,967	15,124	5,226	20,350
1876	24,316	8,626	32,942	16,191	5,732	21,923
1877	27,417	11,211	38,628	14,378	5,796	20,174
1878	28,217	11,662	39,879	16,660	6,253	22,913
1879	30,854	13,647	44,501	14,625	6,070	20,695
1880	32,768	13,102	45,870	18,758	7,801	26,559
1881	34,193	13,530	47,723	17,454	7,371	24,825
1882	32,687	14,602	47,289	20,114	7,858	27,972
1883	46,543	20,663	67,206	24,286	10,110	34,396
1884	49,972	22,514	72,486	28,304	11,950	40,254
1885	54,843	23,295	78,138	26,976	11,479	38,455
1886	50,234	20,154	70,388	30,994	10,902	41,896
1887	49,503	18,102	67,605	32,163	11,926	44,089
1888	46,066	19,160	65,226	29,922	13,759	43,681
1889	44,348	19,849	64,197	29,789	13,768	43,557
	820,270	315,901	1,136,171	509,015	188,297	697,312

CENTRALIZATION OF POPULATION.

Tendency of immigrants to live in large cities.

There is a tendency operating in all new countries for immigrants to locate themselves in and near the large cities. This Colony has been no exception to the rule, and it will be seen from subsequent tables that the percentage of British born and Foreigners residing in the metropolis is higher than for the rest of the Colony, and the native-born correspondingly lower.

Proportion of native-born increasing.

As far back as 1861, when the native-born population amounted to only 45·69 per cent. of the whole Colony, the number living in Sydney and its suburbs formed only 42·13 per cent. of the total, while British born colonists, amounting to 46·18 per cent. of the population, constituted 52·93 per cent. of the metropolitan population. No great difference is observable between the proportion of persons attracted to New South Wales from other colonies who remained in Sydney during late years, and those who made the country districts their home. What difference there is favours the supposition that the metropolis has proved more attractive. The non-British population have, as a rule, preferred the country districts to Sydney; but of late years there has been a tendency on the part of certain foreign elements to gravitate towards Sydney; this is especially noticeable amongst the Chinese.

Birthplaces of the people.

The following table shows the proportion per cent. of each element of the population at the three periods 1861, 1871, and 1881, to the whole city population, and also the proportion which each bore to the whole community:—

Birthplaces of the People.

Year.	Native Born of New South Wales.		Natives of other Australian Colonies		Other British-born Subjects.		Foreigners.	
	Per cent. of population, metropolitan.	Per cent. of total population.	Per cent. of population, metropolitan.	Per cent. of total population.	Per cent. of population, metropolitan.	Per cent. of total population.	Per cent. of population, metropolitan.	Per cent. of total population.
1861	42·13	45·69	1·77	1·34	52·93	46·18	3·17	6·79
1871	54·24	58·57	3·07	2·67	40·22	34·85	2·47	3·91
1881	56·87	62·17	6·18	5·95	33·62	27·97	3·33	3·91

Racial composition of people.

The racial composition of the people at the last three census—of 1861, 1871, and 1881—will be seen from the following table:—

Racial Composition of Population.

Nationality.	1861.	1871.	1881.
	per cent.	per cent.	per cent.
New South Wales	45·69	58·38	61·95
Other Australasian Colonies	1·34	2·67	5·95
Aborigines	...	0·19	0·22
English	23·98	17·33	14·32
Irish	15·63	12·49	9·21
Scotch	5·19	3·98	3·34
Welsh	0·39	0·37	0·41
Other British Subjects	0·99	0·68	0·69
Total, British Subjects	93·21	96·09	96·09
Chinese	3·70	1·43	1·36
German	1·56	1·31	1·00
Other Foreigners	1·53	1·17	1·55
Total, Foreigners	6·79	3·91	3·91

It is probable that out of a total population of 1,122,200 at the end of 1889, that 722,500 (364,800 males and 357,700 females) were natives of the Colony.

Tendency of population towards cities.

One of the most notable problems in the progress of modern civilization is the tendency, everywhere exhibited in the chief countries of the world, of the population to accumulate in great cities. Not only is this apparent in England, France, and other countries where the development of manufactures has brought about an entire change in the employment of the people, and has necessarily caused their aggregation in towns, but it is seen also in the United States, the most favoured country for the agricultural labourer.

Comparison of Colonies with America.

The conditions of progress in these colonies approximate somewhat to those of the United States, and a comparison between the increase of town population there and in New South Wales is not without interest. The great defect in the comparison arises from the fact that in America there exist many large cities; in New South Wales there is practically only one. The population of the United States for three periods, and the proportion of rural to city population, will be seen below :—

Population of the United States.

Year.	Population of the United States.	Population of Cities of United States.	Percentage of whole population in Cities.
1860	31,443,321	5,072,256	16·1
1870	38,558,371	8,071,875	20·7
1880	50,155,783	11,318,547	22·5

Causes which lead to increase in cities.

The rapid increase of city population shown above has given rise to considerable speculation, both in Europe and America. It seems an established fact that the movement of population towards the towns in the old countries of the world is a sign of improvement in the circumstances of the ruder population; for, like every other commodity, labour gravitates to the market where it will obtain the highest price. In America the increase in town population has been derived mainly from abroad; and there seems no reason to suppose that, large as the proportion of urban population has become, it has reached an unhealthy stage. In Australasia, however, the case is different, and it is impossible to believe that healthy progress is consistent with the wonderful growth of the metropolis at the expense of the country.

Urban and rural population.

In this Colony the proportion of town population is even more remarkable than in the United States, as will be seen from the table here given, showing the percentage of population of Sydney and suburbs as compared with New South Wales as a whole :—

New South Wales Population.

Year.	Metropolitan.	Country.
	Per cent.	Per cent
1861	26·70	73·30
1871	26·73	73·27
1881	29·40	70·60
1885	32·84	67·16
1886	33·36	66·64
1887	33·64	66·36
1888	33·77	66·23
1889	34·02	65·98

In regard to the neighbouring Colony of Victoria, the figures are :—

Victorian Population.

Year.	Metropolitan.	Country.
	Per cent.	Per cent.
1861	25·89	74·11
1871	28·87	71·13
1881	32·81	67·19
1885	35·42	64·58
1886	37·65	62·35
1887	37·79	62·21
1888	40·13	59·87
1889	41·00	59·00

Fewness of Australasian cities.

In the table of urban population of the United States on the preceding page, is included the population of all towns exceeding 8,000 inhabitants; nevertheless, the proportion to the whole is much less than in either New South Wales or Victoria. The case of Melbourne is even more marked than that of Sydney; for during the twenty-eight years comprised in the table, the former city increased proportionately more than the latter, as compared with the population of its Colony, and its numerical increase has also been greater.

Population of the City and Suburbs of Sydney and Melbourne.

Year.	Sydney.	Melbourne.
1861	95,596	139,860
1871	136,483	206,780
1881	224,211	282,947
1884	289,201	322,690
1885	314,545	345,380
1886	334,298	371,630
1887	350,866	391,546
1888	366,684	437,785
1889	381,730	458,470

Extraordinary progress of Sydney and Melbourne.

The progress of these cities has been extraordinary, and has no parallel amongst the cities of the Old World. Even in America the rise of the great cities has been accompanied by a somewhat corresponding increase in the rural population. In these colonies, perhaps for the first time in the history of the world, is seen the spectacle of magnificent cities growing with wonderful rapidity, and embracing within their limits one-third of the population of the territory on which they depend. The chief cities of the other Australian Colonies present somewhat similar features to Sydney and Melbourne, but with the exception of Adelaide, which contains nearly two-fifths of the whole population of South Australia, they are not so large in proportion to their rural population as either Sydney or Melbourne.

Population of Australasian cities.

The estimated population of the chief cities of the Australasian Colonies is given below :—

City.	Population, 31st December, 1889.
Sydney	381,730
Melbourne	458,470
Adelaide	121,735
Brisbane	87,000
Wellington	33,050
Hobart	34,916
Perth	9,000

Wellington, the capital of New Zealand, is not the most populous city in that colony; Auckland, which was the seat of Government and the capital until 1865, contains nearly double the population, the estimate for 1889 being over 60,000.

Growth of Sydney.

Sydney stands alone amongst Australian cities for convenience of position and natural advantages for external and internal trade. Nor has the progress it has made in wealth and population been less than expectation warranted. The growth of population within the municipal boundaries of the city forms an interesting feature in the progress of the Colony. In the table given below the population set down for the years previous to 1871 is that ascertained at the date of different census; from 1871 the figures show the estimated population at the close of the year :—

Population of Sydney within its Municipal Boundaries.

Year.	Persons.	Male.	Female.	Year.	Persons.	Male.	Female.
1828	10,815	7,408	3,407	1877	91,008	46,832	44,176
1833	16,232	9,813	6,419	1878	94,228	48,809	45,419
1836	19,729	12,111	7,618	1879	98,824	51,748	47,076
1841	29,973	17,169	12,804	1880	102,161	53,910	48,251
1846	38,358	20,810	17,548	1881	106,578	56,793	49,785
1851	44,240	22,296	21,944	1882	110,112	58,828	51,284
1856	53,358	26,396	27,032	1883	115,847	62,603	53,244
1861	56,394	27,285	29,109	1884	121,441	66,152	55,289
1871	77,680	38,631	39,049	1885	122,910	67,380	55,530
1872	79,455	39,668	39,787	1886	124,379	68,607	55,772
1873	81,482	40,774	40,708	1887	125,850	69,418	56,432
1874	83,631	42,123	41,508	1888	127,449	70,082	57,367
1875	85,267	43,191	42,076	1889	128,880	70,701	58,179
1876	87,261	44,440	42,821				

Growth of metropolitan population.

At the census of 1861 the population of the whole metropolis was 95 596; ten years later it had risen to 136,483; while at the census of 1881 the number had reached 224,211; and in 1889 the estimated number of persons in Sydney and its suburbs was, as already stated, 381,730. The progress of the population in the city and suburbs will be found in the following table, which also includes the country districts, and the whole Colony, commencing with the year 1870.

Estimated Population of the City and Suburbs of Sydney and the Country Districts of the Colony, on the 31st December in each year, 1870–89.

Year.	City of Sydney.			Suburbs of Sydney.			Country Districts.			New South Wales.		
	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.
1870	37,349	38,144	75,493	28,497	30,588	59,085	206,697	157,384	364,081	272,543	226,116	498,659
1871	38,631	39,049	77,680	30,662	32,279	62,941	213,553	163,584	377,137	282,846	234,912	517,758
1872	39,668	39,787	79,455	32,440	33,870	66,310	219,907	169,547	389,454	292,015	243,204	535,219
1873	40,774	40,708	81,482	34,207	35,757	69,964	226,418	175,969	402,387	301,399	252,434	553,833
1874	42,123	41,508	83,631	36,583	37,964	74,547	234,137	182,628	416,765	312,843	262,100	574,943
1875	43,191	42,076	85,267	38,756	40,052	78,808	241,133	189,089	430,222	323,080	271,217	594,297
1876	44,440	42,821	87,261	40,939	42,314	83,253	248,136	195,531	443,667	333,515	280,666	614,181
1877	46,832	44,176	91,008	45,019	46,298	91,317	258,478	202,904	461,382	350,329	293,378	643,707
1878	48,809	45,419	94,228	48,358	50,360	98,718	268,458	210,484	478,942	365,625	306,263	671,888
1879	51,748	47,076	98,824	53,547	45,901	109,448	281,631	219,556	501,187	386,926	322,533	709,459
1880	53,910	48,251	102,161	57,932	60,078	118,010	293,435	228,287	521,722	405,277	336,616	741,893
1881	56,793	49,785	106,578	63,746	64,968	128,714	306,405	236,993	543,398	426,944	351,746	778,690
1882	58,828	51,284	110,112	67,629	70,490	138,119	316,857	245,745	562,602	443,314	367,519	810,833
1883	62,603	53,244	115,847	74,530	78,420	152,950	332,876	256,071	588,947	470,009	387,735	857,744
1884	66,152	55,289	121,441	81,194	86,566	167,760	348,225	266,522	614,747	495,571	408,377	903,948
1885	67,380	55,530	122,910	93,130	98,505	191,635	367,023	276,346	643,369	527,533	430,381	957,914
1886	68,607	55,772	124,379	103,268	106,651	209,919	379,468	288,200	667,668	551,343	450,623	1,001,966
1887	69,418	56,432	125,850	112,444	112,572	225,016	392,150	299,903	692,053	574,012	468,907	1,042,919
1888	70,082	57,367	127,449	121,080	118,155	239,235	407,945	311,111	719,056	599,107	486,633	1,085,740
1889	70,701	58,179	128,880	128,923	123,927	252,850	418,676	321,794	740,470	618,300	503,900	1,122,200

The increase of the city population during the nineteen years which closed with 1889 has been over 70 per cent., and of the suburbs 328 per cent., or 183 per cent. for the metropolis, while that of the country districts amounted to 103 per cent. The population of the whole Colony has more than doubled itself during this period; the total for 1889 showing an increase of 125 per cent. on the total for 1870.

Area of the metropolis.

The area of the metropolitan district incorporated is nearly 120 square miles, or 76,417 acres, so that the average density of population was 5 persons per acre at the end of the year, or 48 per acre for the city and 3·4 for the suburbs. Some of the more immediate suburbs are, however, almost as densely populated as the city itself. The area of land permanently dedicated for public recreation in the metropolis comprises 3,761 acres (776 acres in the city, and 2,985 in the suburbs, this includes the Centennial Park, the area of which is about 780 acres), equal to nearly one twentieth of the total extent of the district, which must certainly be looked upon as a very liberal provision for the maintenance of public health. This is quite apart from the National Park, an area of 36,320 acres, which is within an hour's journey by train of the city. The area of Melbourne and suburbs is 163,942 acres, or about 256 square miles, and the population at the close of the year 1889 was 458,470; this shows a density of population of 2·8 persons to the acre. The area taken for Melbourne is an arbitrary one, being the land included within a radius of 10 miles of the centre of the city. An area of 256 square miles around Sydney would include Parramatta, Hunter's Hill, Ryde, and surroundings, and would at the close of 1889 have embraced a population of probably not fewer than 400,000—a number still less than the Melbourne metropolitan population.

The suburbs of Sydney consist of the following districts, which are here grouped according to locality:—*North-western*—Balmain, Leichhardt, Glebe; *West Central*—Newtown, St. Peters, Camperdown, Macdonaldtown; *East Central*—Redfern, Darlington, Waterloo, Alexandria, Botany; *Eastern*—Paddington, Randwick, ley, Woollahra; *Western and Southern*—Ashfield, Burwood, bury, Five Dock, Hurstville, Kogarah, Marrickville, Peter- Rockdale; and *North Shore*—St. Leonards, Manly.

Suburbs of Sydney.

population of the suburbs has more than doubled itself he census of 1881. The increase has been general, varying 55 per cent. in the east central districts of Redfern, loo, &c., to 200 per cent. in the western and southern s, which constitute the *electorate* of Canterbury:—

Suburbs.	Population, 1881.	Population, June, 1890.	Increase per cent.
vestern	27,785	57,687	108
entral	15,991	34,078	113
ntral	25,664	42,416	65
	20,220	43,814	117
n and Southern	20,162	60,500	200
hore	11,010	21,820	98

Municipalities.

suburbs of Sydney comprise several distinct municipalities. pulation of those in existence at the date of the last census, the middle of the year 1890, will be found below:—

Population of the various Municipalities.

icipality.	Population at Census of 1881.	Estimated population June, 1890.	Municipality.	Population at Census of 1881.	Estimated population June, 1890.
lria	3,449	7,100	Manly	1,327	2,700
l	4,087	10,760	Marrickville	3,501	13,000
	15,063	27,189	Newtown	8,327	17,834
	......	1,800	North Willoughby	1,411	2,000
North	......	2,025	Paddington	9,608	19,668
d	2,472	5,925	Petersham	3,413	10,000
down	3,522	5,900	Randwick	2,079	5,000
ury	1,175	2,600	Redfern	10,868	20,250
l	......	2,570	Rockdale	858	4,860
ton	2,026	3,141	St. Leonards, East	2,320	5,600
	......	1,600	St. Leonards	2,647	7,270
ck	888	2,000	St. Peters	2,272	4,944
be	10,500	15,840	Strathfield	......	1,000
lle	......	2,500	Victoria	2,182	4,250
	......	2,185	Waterloo	5,762	8,100
rdt	1,866	14,658	Waverley	2,365	9,646
aldtown	1,870	5,400	Woollahra	6,168	9,500

Municipalities over 2,000 inhabitants

At the time of the census of 1881 there were only twenty-six municipalities outside the metropolis which contained as many as 2,000 inhabitants, but now there are fifty-seven. The following are their names and the most recent estimates of population :—

Population of Chief Country Municipalities, February, 1890.

Country Municipalities.	Estimated Population.	Country Municipalities.	Estimated Population.	Country Municipalities.	Estimated Population.
Adamstown	6,000	Granville	3,400	Narrabri	2,000
Albury	6,000	Gulgong	2,000	Newcastle	13,000
Armidale	3,400	Hamilton	4,750	Orange	3,500
Bathurst	9,000	Hay	2,750	,, East	2,100
Bega	2,300	Hunter's Hill	3,000	Parkes	2,700
Bourke	3,500	Illawarra, Central	3,100	Parramatta	12,000
Bowral	2,000	,, North	2,000	Penrith	3,500
Broken Hill	14,000	Inverell	3,000	Plattsburg	4,100
Broughton Creek	2,820	Junee	2,000	Ryde	2,500
Carrington	2,500	Kempsey	3,100	Singleton	2,000
Casino	2,000	Kiama	3,650	Stockton	3,000
Cootamundra	2,000	Lambton	4,300	Tamworth	4,600
Cudgegong	2,500	Lismore	3,200	Wagga	4,500
Deniliquin	2,500	Lithgow	3,500	Wallsend	3,465
Dubbo	4,050	Liverpool	4,000	Waratah	2,400
Forbes	3,300	Maitland, East	3,000	Wickham	5,400
Glen Innes	4,590	,, West	6,250	Windsor	2,500
Goulburn	11,400	Merewether	4,565	Wollongong	4,000
Grafton	5,350	Mudgee	3,000	Young	2,880

Population densest along seaboard.

The great bulk of the population dwells along the seaboard. Outside the metropolis the most thickly peopled districts are the fertile valleys of the rivers. Amongst these, in point of population, the Hunter River valley, with large agricultural and mining industries, stands first. The Illawarra district, rich in coal and pasture, comes next ; then the maize and sugar-growing country of the Clarence and the Richmond. The settlement of population originally followed the main roads of the Colony, and is now drawn to the great trunk lines of railway, which have almost superseded them.

NATURALIZATION.

There were 137 foreigners naturalized in this Colony during the year 1889. Their ages varied from 21 to 62, and their length of residence in New South Wales ranged from five to thirty-seven renty-seven had been resident more than twenty years in y. Of European races the Germans have availed themst largely of the privileges of naturalization, but the certificates issued to Germans amounts to scarcely more the number granted within the past ten years to Chinese. ring table shows the native countries of those colonists ed certificates of naturalization during each year, from 89 :—

Naturalization of Germans.

Naturalization of Foreigners.

ntries.	1880.	1881.	1882.	1883.	1884.	1885.	1886.	1887.	1888.	1889.	Total.
....	1	5	3	4	3	10	8	8	7	9	58
....	...	...	...	...	1	...	...	...	1	...	2
....	2	1	1	1	...	...	...	...	3	2	10
....	5	1	...	4	4	1	3	1	1	3	23
....	3	4	3	4	3	4	5	6	6	5	43
....	43	34	32	46	44	47	45	48	32	58	429
....	...	4	1	3	8	1	5	3	3	6	34
....	1	2	...	2	2	1	2	3	1	2	16
....	..	...	...	...	...	...	2	...	...	...	2
....	13	7	5	12	11	7	18	19	10	15	117
....	...	8	1	3	6	3	4	5	9	8	47
....	12	7	5	13	8	17	10	13	17	13	115
....	1	2	2	2	3	7	6	3	5	5	36
....	1	...	...	2	4	4	4	3	5	1	24
....	...	1	1	2	1	1	2	3	2	4	17
....	...	...	...	...	...	...	...	...	...	1	1
....	...	...	...	...	1	...	...	...	...	...	1
....	...	...	...	...	...	..	...	...	1	1	2
....	18	31	93	301	265	22	5	1	...	...	736
....	...	...	...	...	...	...	...	..	...	...	1
....	...	...	...	...	...	...	...	...	3	. .	3
....	...	...	...	...	...	...	...	1	...	...	1
....	...	...	...	1	...	...	...	...	...	...	1
....	...	...	...	...	...	...	...	...	...	1	1
....	1	...	..	4	2	...	...	1	...	3	11
es	...	...	...	1	...	2	1	...	...	...	4
ands ...	...	1	...	...	...	1	4	..	...	...	6
....	...	...	...	1	...	...	...	...	...	...	1
nia	...	...	...	...	...	...	...	1	...	...	1
....	...	...	...	...	1	...	...	...	...	...	1
....	102	108	147	406	367	128	124	119	106	137	1,744

his it will be seen that the Chinese have, more than any on, evinced a desire to become British subjects; and cy is even more marked in Victoria, where, out of 3,621 turalized during the ten years from 1879 to 1888, no

Large number of Chinese naturalized.

fewer than 2,939 were born in China, the greatest number naturalized in any one year being 1,178 in 1885. The result of the Conference held in Sydney in 1888, reference to which is made a few pages further on, has been to place a bar to the naturalization of the Chinese as well as to restrict the numbers arriving in the Colonies. The total number of persons naturalized in New South Wales from 26th July, 1849, to 31st December, 1889, was 5,952.

Of those naturalized during 1889, 3 were merchants, 2 brewers, 1 banker, 1 solicitor, 1 surveyor, 1 freeholder, 1 chemist, 2 jewellers, 3 engineers, 2 contractors, 1 stevedore, 2 shipwrights, 1 bookseller, 4 bakers, 4 blacksmiths, 1 bootmaker, 5 carpenters, 1 coach-trimmer, 1 fettler, 1 painter, 1 stonemason, 1 soap manufacturer, 1 wood-carver, 1 cement-tester, 1 dairyman, 1 fishmonger, 2 fruiterers, 2 grocers, 2 hairdressers, 1 plate-layer, 1 tanner, 1 fancy-leather maker, 1 engine-driver, 14 labourers, 2 hawkers, 14 mariners, 2 sailmakers, 16 farmers, 1 vine-grower, 1 nurseryman, 4 gardeners, 8 miners, 1 smelter, 1 insurance agent, 2 commission agents, 1 accountant, 6 clerks, 7 storekeepers, 1 storeman, and 2 publicans.

CHINESE POPULATION.

Chinese undesirable as colonists.

The uniformity with which the different colonies have passed laws restricting the immigration of Chinese, and prohibiting their landing, except upon payment of a heavy poll-tax, may be taken as some evidence of the undesirability of the race as colonists. At the census of 1861 there were in the Colony 12,988 Chinese; in 1871 the number had fallen to 7,220; rising again in 1881 to 10,205. For many years New South Wales offered little inducement to the Chinese as a place of settlement, the superior attractiveness of Victoria and other colonies, as gold producers, claiming their attention. At the rush to Lambing Flat in 1860, however, large numbers of Chinese came across the border and established themselves in this Colony, their strength being constantly recruited by fresh arrivals from China; but these Chinese

Immigration and emigration of Chinese.

›t remain in the Colony, for at the census of 1871 there 5,768 less than ten years previously. Of late years the ›r of Chinese has largely increased and at the beginning of :here were nearly 16,000 residing in the Colony.

numbers of Chinese arriving at and departing from New Wales since 1871 will be found in the following table :—

Arrivals.	Departures.	Year.	Arrivals.	Departures.
426	441	1881	4,465	929
229	597	1882	1,007	884
406	400	1883	1,936	1,402
863	933	1884	2,191	1,038
625	1,209	1885	2,929	1,726
696	940	1886	3,092	1,883
884	490	1887	4,436	2,773
2,485	1,560	1888	1,848	1,562
1,979	557	1889	7	941
2,942	876			

Influx of Chinese to New South Wales.

›ill be seen that 1878 and the following years are marked large increase in the arrivals from China. The influx ›ed in 1881 sufficiently formidable to demand the interference Legislature. Accordingly the "Influx of Chinese Restric-ct" was passed, with the result that the subsequent year was d by a decrease in the arrivals to the extent of 3,458, since time there has been a steady increase until 1888, when tion again stepped in, this time with more stringent regula-to restrict the numbers arriving on these shores. It would from a comparison of the amount of poll-tax collected (£10 l until July, 1888, when it was raised to £100) with the ed arrivals, that a very considerable proportion of the Chinese rants were already British subjects, or had availed them-of the privilege granted by the Act of returning to the › after an absence of nine months without paying a second This is evidently so to a large extent, for from the 6th ıber, 1881, the date of the Act just mentioned, to the 11th 1888, when the present Act became law, 3,178 certificates ııption were issued in this Colony to Chinese, the date of

Evasion of poll-tax.

the last certificate being the 28th April, 1888, and of this number 1,788 have been received from returned Chinese. No such certificates have been granted since the passing of the "Chinese Restriction and Regulation Act of 1888." The large excess of Chinese not paying the tax would favour the supposition that considerable evasion had been practised in past years.

Year.	Chinese arriving.	Chinese paying Poll-tax.	Chinese not paying Poll-tax.
1882	1,007	852	155
1883	1,936	1,220	716
1884	2,191	1,074	1,117
1885	2,929	1,060	1,869
1886	3,092	1,284	1,808
1887	4,436	1,798	2,638
1888	1,848	462	1,386
1889	7	1	6

Chinese immigration in Australia increasing.

There has very clearly been an increasing desire during the last few years on the part of the Chinese to migrate to Australia. This of late brought about considerable discussion, which culminated in a Conference of delegates from all the colonies being held in Sydney in 1888. As a result, the Conference prepared a draft bill, which was afterwards submitted to the Parliaments of the different colonies. The bill provided that more stringent regulations should be enforced to check the influx of Chinese to these shores; and although it was not deemed advisable that their landing should be prohibited altogether, yet it was considered necessary that such a limit should be placed to the numbers privileged to land as would prove an efficient check to Chinese immigration. Before the Conference met, progress had been made in the New South Wales Legislature with a bill which was proceeded with after the Conference adjourned, and became law on the 11th July, 1888. By this measure vessels are prohibited from carrying to the Colony more than one Chinese passenger to every 300 tons; Chinese landing are to pay a poll-tax of £100, and are not to engage in mining, without express authority under the hand and seal of

Recent legislation against influx.

the Minister of Mines, nor are they permitted to become naturalized. The penalty for a breach of the Act is £500. The Act has already operated to the entire cessation of Chinese immigration

Chinese in the Colonies in 1890.

It is estimated that in the beginning of the year 1890 there were 47,433 Chinese in the Australasian colonies, exclusive of Fiji. This number was distributed as follows:—New South Wales, 15,581; Victoria, 11,290; Queensland, 7,691; South Australia (chiefly in the Northern Territory), 6,660; New Zealand, 4,585; Tasmania, 1,000; and Western Australia, 626. When the census of 1881 was taken the total number in the colonies was set down as 43,706, which is 3,727 less than the present estimate.

Chinese in the Australasian Colonies, 1881.

Colony.	Males.	Females.	Total.
Victoria	11,869	259	12,128
Queensland	11,206	23	11,229
New South Wales	10,141	64	10,205
New Zealand	4,995	9	5,004
South Australia	4,146	5	4,151
Tasmania	842	2	844
Western Australia	145	...	145
Total	43,344	362	43,706

ABORIGINES.

Aborigines.

This name, signifying "from the origin," was given to the earliest known inhabitants of Italy, but is now applied to the original or primitive inhabitants of any country. As the history of the native race in these colonies is so entwined with the progress of the British people in Australia, a few words concerning them may not be out of place. The aborigines of Australia form a distinct race, and it may be presumed that the whole of them throughout the continent sprang from the same stock, although it is remarkable that their languages differ so greatly that tribes within short distances of each other are often quite unable to understand each other; and in fact almost every large community of natives has its own peculiar dialect. It is difficult to form a correct estimate of their numbers, and while there is reason to believe that some generations ago they were very numerous, there is ample evidence of late years that in many places they are decreasing; and they may now be counted by fives where they were formerly counted by hundreds. In Tasmania they have disappeared altogether, the last of the tribe in that colony having died in 1876.

Estimate by Governor Phillip.

It is recorded that Governor Phillip estimated the aboriginal population about the close of the last century at one million; the number between Broken Bay and Botany Bay appearing to have been about 3,000. It is impossible to say how far this estimate was in accordance with fact; for, although at the time it did not probably seem an exaggerated conjecture in the face of so large a number as 3,000 having been found within the small area between the bays above mentioned; yet, considering how small a portion of the territory was then explored by the early settlers, the statement must be accepted as what it professes to be, namely, an estimate at a time when the data to hand were very limited.

Aborigines at census of 1881.

At the census of 1881 the aborigines in Australia were believed to number 31,700, distributed as follows:—

Aborigines in the Australian Colonies, 1881.

Colony.	Males.	Females.	Total
New South Wales	938	705	1,643
Victoria	460	320	780
Queensland	10,719	9,866	20,585
South Australia	3,478	2,868	6,346
Western Australia............	1,640	706	2,346
Total..................	17,235	14,465	31,700

Estimate untrustworthy.

There are various reasons for believing that the above total does not include the entire aboriginal population of the colonies In New South Wales, for instance, only the "civilized" blacks were enumerated in the returns, and, from reliable information since available, it is certain that the actual number, including those in a wild state, was much higher. The figures for Queensland are in a great measure derived from estimates which are considered by the Registrar-General of that colony to be too low, for in his report on the census he says :—"In the northern parts of the Colony the aborigines are comparatively numerous, and some persons resident in the Cook and Palmer districts have supposed that there may be 70,000 in Queensland. This, however, is a very crude estimate, and may be far wide of the truth." In the case of South Australia, the aborigines in the Northern Territory were not included in the returns, and it seems probable that they are as numerous in that Colony as in Queensland. The census of Western Australia includes only those aboriginals in the employment of the colonists, and as large portions of this, the greatest in area of all the Australasian Colonies, are as yet unexplored, it may be presumed that the number of aborigines enumerated in the census is very far short of the total in the Colony. The aboriginal population of the entire Continent may be set down at something like 200,000.

The Maoris.

The original inhabitants of New Zealand, or Maoris, as they are called, are quite a different race. They are gifted with a considerable amount of intelligence, quick at imitation, and brave even to rashness ; on the other hand they are avaricious, and ofttimes ferocious. According to the census of 1881 they numbered 44,097. Like the Australian aborigines they appear to be decreasing in number, the census of 1886 enumerating only 41,432. The total in 1889 was estimated to be about 42,000 (23,000 males and 19,000 females). It is believed, however, that at the time the colonists first landed their number was fully 120,000.

Aborigines decreasing.

It is stated in the annual report of the Aborigines Protection Board that there were 7,529 aborigines in New South Wales in 1889, as compared with 7,485 in 1888. These totals include half-castes, which last year numbered 2,877, and in 1888, 2,767. The number of full-blood aborigines has therefore decreased by 66, while the half-castes have increased by 110, so that the increase on the total was 44. The number of births reported during 1889 was 315 (163 of the children being half-castes), and the deaths 271 (61 half-castes). There are three mission stations under the control of the Board. These establishments, when first formed, were little more than camping grounds for the aborigines, where they worked for their rations, elementary instruction being imparted to the children, but now they have developed into settlements, with greatly improved huts for married couples, and adequate accommodation for teaching, duly qualified instructors having been appointed by the Department of Public Instruction. During the year 8,390 blankets were forwarded from the Government Stores Department to the various Benches of Magistrates for distribution among the blacks. This bounty has been conceded for many years. Compared with the above returns, the number enumerated by the census appears small, and shows that the aboriginals passed over as being in a wild state far outnumbered those within the bounds of civilization.

Crimes and misfortunes of native blacks.

It has been the misfortune of the aborigines of Australia, as it was of the Carribee, the North American Indian, and the Hottentot, to be found in the way of European colonization; and the blacks have not seen the white man take possession of their territory without many an attempt, by deeds of cunning and of blood, to stop the invasion and to avenge the injury. It would be easy to gather from the records of British colonization in Australia many instances of horrible crimes committed by the aborigines, who are, in fact, partakers of the worst passions of human nature. But it must not be forgotten that, amongst the people of British origin who settled upon the land formerly occupied by the blacks alone, were many whose crimes against the aborigines at least equalled in atrocity any committed by that unfortunate race. Cunning and ferocity were the natural concomitants of such a struggle; and the remembrance of what cunning and ferocity have done tends to make the colonists slow to recognize any characteristics of an opposite kind in the blacks. There is, however, evidence from their songs and their cherished traditions,* that they are by no means destitute of some qualities in which civilized men glory—such as the power of inventing tragic and sarcastic fiction, the thirst for religious mystery, stoical contempt of pain, and reverence for departed friends and ancestors. The manner in which they have displayed these characteristics presents such a strange mixture of wisdom and folly, of elevating and degrading thoughts, of interesting and of repulsive traditions, of pathetic and grotesque observances, that in order to account for the apparent contradictions, recourse must be had to the supposition that this race has descended from an ancient and higher civilization, of which they have retained some memorials.

Oral traditions.

DISTRIBUTION OF SEXES.

The relative proportion of males to females in the whole Colony has undergone little change for many years past, as will be seen from the following figures :—

Percentage of Males and Females to whole Population.

Year.	Males.	Females.
1861	56·57	43·43
1871	54·67	45·33
1881	54·71	45·29
1885	55·07	44·93
1886	55·03	44·97
1887	55·04	44·96
1888	55·18	44·82
1889	55·10	44·90

The excess of male over female population is chiefly at the ages of from 20 to 50 years, and is caused by the large influx of males in the prime of life, from the neighbouring colonies and the British Islands. New South Wales is especially strong in adult

Excess of male population.

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* *Vide* Kamilaroi and other Australian Languages, by Rev. W. Ridley, M.A.

male population, and the number of men between 20 and 50 years at the last census exceeded even Victoria, though the latter colony had then a gross population of 111,000 in excess of New South Wales. The figures for all the colonies show that there was, at the census of 1881, a population of 619,970 males between the ages named, of whom 175,473 were living in New South Wales :—

Male Population of the Australasian Colonies between the ages of 20 and 50 years.

Colony.	Male population 20 to 50 years.
New South Wales	175,473
Victoria	168,444
New Zealand	120,585
South Australia	65,545
Queensland	62,241
Tasmania	20,941
Western Australia	6,741
Total	619,970

Males at self-supporting ages.

It is customary in England and elsewhere to consider the self-supporting ages as from 20 to 60 years. Comparing the population of the different colonies at these ages, the result at the last census was still distinctly favourable to New South Wales, though the aggregate was less than Victoria :—

Male Population at supporting ages, 20 to 60 years, in the Australasian Colonies.

Colony.	Male population 20 to 60 years.
New South Wales	200,208
Victoria	210,850
New Zealand	134,993
South Australia	73,778
Queensland	68,590
Tasmania	25,798
Western Australia	8,553

Greater number of males in country districts.

The greater portion of the excess of male population is in the country districts, the disparity between the sexes not being so great in the metropolis. Taking the fourteen years ended 1889, the percentage of males to females in the whole Colony, and in the city, suburbs, and country will be found below :—

Proportion of Males and Females to every 100 persons in New South Wales.

Year ended 31 Dec.	City of Sydney.		Suburbs.		Country Districts.		New South Wales.	
	Proportion to 100 persons living.		Proportion to 100 persons living.		Proportion to 100 persons living.		Proportion to 100 persons living.	
	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.
1876	50·93	49·07	49·17	50·83	55·93	44·07	54·30	45·70
1877	51·46	48·54	49·30	50·70	56·02	43·98	54·42	45·58
1878	51·80	48·20	48·99	51·01	56·05	43·95	54·42	45·58
1879	52·36	47·64	48·92	51·08	56·19	43·81	54·54	45·46
1880	52·77	47·23	49·09	50·91	56·24	43·76	54·63	45·37
1881	53·29	46·71	49·52	50·48	56·39	43·61	54·83	45·17
1882	53·43	46·57	48·96	51·04	56·32	43·68	54·67	45·33
1883	54·04	45·96	48·73	51·27	56·52	43·48	54·80	45·20
1884	54·47	45·53	48·40	51·60	56·65	43·35	54·82	45·18
1885	54·82	45·18	48·60	51·40	57·05	42·95	55·07	44·93
1886	55·16	44·84	49·19	50·81	56·83	43·17	55·03	44·97
1887	55·16	44·84	49·97	50·03	56·66	43·34	55·04	44·96
1888	54·99	45·01	50·61	49·39	56·73	43·27	55·18	44·82
1889	54·86	45·14	50·99	49·01	56·54	43·46	55·10	44·90

Ages of the people.

A glance at the statement of ages of persons returned at the census of 1881, given herewith, will show at what ages the chief strength of the Colony lies. There is a gradual diminution in the number of persons at the different periods of life from infancy to old age—the only irregularity in the gradation being the large number of males between the ages of 20 and 25 years. New South Wales is almost the only colony which presents this satisfactory view of the ages of its people, approaching so nearly what should theoretically be found in a perfect community :—

Ages of People in New South Wales at Census of 1881.

Ages.	Males.	Females.	Ages.	Males.	Females.
Under 5	56,169	54,954	50 to 55	15,649	8,835
5 to 10	49,877	49,141	55 ,, 60	9,086	5,923
10 ,, 15	45,071	43,408	60 ,, 65	8,350	5,528
15 ,, 20	38,169	37,565	65 ,, 70	5,134	3,148
20 ,, 25	40,056	34,481	70 ,, 75	3,461	2,057
25 ,, 30	35,050	25,488	75 ,, 80	1,645	992
30 ,, 35	29,361	21,278	80 and upwards..	1,277	637
35 ,, 40	27,338	19,067	Unspecified	1,788	628
40 ,, 45	24,242	15,293			
45 ,, 50	19,426	11,896		411,149	340,319

Population at different census.

The following are the figures disclosed by the census of 1861, 1871, and 1881 :—

Population of New South Wales.

Year.	Males.	Females.	Total.
1861	198,488	152,372	350,860
1871	275,551	228,430	503,981
1881	411,149	340,319	751,468

MARRIAGES.

The number of marriages registered in the Colony shows an uninterrupted annual increase from 1875 to 1886 ; in 1887, however, there was a falling off, and while during 1888 there were

Marriage rate declining.

arriages than in any previous year, the record last year ller than in either of the preceding four. The rate per f population has been declining during the last six ınd 1889 presents a lower rate than has been shown y years past.

Marriages in New South Wales.

Marriages registered.	Per 1,000 of mean population.	Year.	Marriages registered.	Per 1,000 of mean Population.
3,953	7·77	1882	6,948	8·74
3,925	7·45	1883	7,405	8·87
4,384	8·05	1884	7,482	8·49
4,343	7·69	1885	7,618	8·18
4,605	7·87	1886	7,811	7·97
4,630	7·66	1887	7,590	7·42
4,994	7·94	1888	7,844	7·37
5,317	8·08	1889	7,530	6·82
5,391	7·80			
5,572	7·68	Mean for 19 years ...		7·88
6,284	8·26			

Marriages in European countries.

ared with some European countries the proportion of ·s to the whole population in the Colony appears somes than might be anticipated, but it will be found that the ances of the countries where marriages are more largely into are entirely dissimilar, and the national habits from our own. The highest European marriage-rate is a the dominions of two great empires, Germany and The ratios for Prussia and the rest of Germany, and for y and the other portion of Austria, are given separately. ·an marriage-rates since 1870 have been declining year by ıd reference to the table will show that the average rate during 1881–88 was lower than the average for several ior to 1881.

Marriages in United Kingdom.

arriage-rate of the United Kingdom is always much the that of the Australasian Colonies, in spite of the comy few marriages solemnized in Ireland. The information llowing table is taken from the report of the Registrarof England.

Marriage-rate per Thousand of Mean Population in certain European countries.

Countries.	Mean of 20 years, 1861–80.	1881.	1882.	1883.	1884.	1885.	1886.	1887.	1888.	Mean of 8 years, 1881–88.
England and Wales	8·2	7·6	7·7	7·7	7·5	7·2	7·0	7·1	7·1	7·4
Scotland	7·1	7·0	7·0	7·0	6·7	6·5	6·2	6·2	6·3	6·6
Ireland	4·9	4·3	4·3	4·3	4·5	4·3	4·2	4·4	4·2	4·3
France	7·9	7·5	7·4	7·5	7·6	7·5	7·4	7·3	7·2	7·4
Spain	7·2	6·4	6·0	6·3	6·7	...	...	...	...	6·4
Switzerland	7·6	6·8	6·8	6·8	6·8	6·9	6·8	7·1	7·0	6·9
Italy	7·6	8·1	7·9	8·0	8·2	7·9	7·8	7·8	7·8	7·9
German Empire ...	8·7	7·5	7·7	7·7	7·8	7·9	7·9	7·8	7·8	7·8
Prussia	8·6	7·6	7·9	7·9	8·0	8·2	8·1	8·0	8·0	8·0
Austria	8·6	8·0	8·2	7·9	7·8	7·6	7·8	7·8	7·9	7·9
Hungary	10·3	10·0	10·3	10·4	10·2	10·0	9·5	9·0	...	9·9
Holland	8·1	7·3	7·2	7·1	7·2	6·9	6·9	7·0	6·9	7·1
Belgium	7·3	7·1	7·0	6·7	6·7	6·8	6·7	7·1	7·3	6·9
Denmark	7·7	7·8	7·7	7·7	7·8	7·6	7·1	7·0	7·1	7·5
Norway	7·2	6·4	6·7	6·6	6·8	6·7	6·5	6·3	6·2	6·5
Sweden	6·7	6·2	6·4	6·4	6·5	6·6	6·4	6·3	...	6·4

The means for the series of years prior to 1881 are not for the full period of twenty years for all the countries above mentioned. In the case of Ireland the ratio is the average from 1864 to 1880; Spain, 1861 to 1878; Switzerland, 1868 to 1880; Italy, 1863 to 1880; German Empire, 1872 to 1880; Hungary, 1866 to 1880; and Norway, 1871 to 1880. It must be borne in mind that the above are the ratios of *marriages* to population; to ascertain the ratios of *persons* married it is therefore necessary to double the figures in each case.

Circumstances of Australia induce marriages.

But no one of the European countries referred to above is to any great extent similar to the Australasian Colonies in its social customs, or in the prosperity of the great bulk of its people. The nearness of the marriage-rate of the United Kingdom to that of Australasia is accidental, as the circumstances of the two countries are very dissimilar. In the former case there is a large excess of female population, due to the emigration of males, while in these colonies the preponderance is greatly on the side of the males.

Besides this, the social condition of the working-classes, in even the least forward of the Australasian Colonies, is much more advanced than in the British Islands; the probabilities are therefore greatly in favour of a higher marriage-rate in these colonies.

Lowest marriage-rate in New Zealand.

The lowest marriage-rate of any of the colonies is found in New Zealand, and the highest, taking a series of years, in Queensland. The rates during the last ten years, which will be found hereunder, show that the average of the whole colonies has been approximately 7·55.

The colonies whose rates are above the average are:—

Queensland	8·37
New South Wales	7·92
South Australia	7·64
Victoria	7·56

Those below the average are :—

Tasmania	7·42
Western Australia	7·25
New Zealand	6·45

Marriage rate of all colonies.

Mean Marriage-rates of the Australasian Colonies.

Year.	New South Wales.	Victoria.	Queensland.	South Australia.	Western Australia.	Tasmania.	New Zealand.
1880	7·68	6·22	7·22	8·66	7·42	7·38	6·71
1881	8·26	6·79	7·66	8·31	6·60	7·30	6·64
1882	8·74	7·09	8·56	8·87	7·07	8·03	7·07
1883	8·87	7·43	8·93	8·63	6·95	9·01	6·82
1884	8·49	7·73	8·91	8·42	7·11	7·81	6·87
1885	8·18	7·72	8·99	7·93	7·89	7·97	6·65
1886	7·97	7·84	8·37	6·41	7·94	7·27	5·99
1887	7·42	7·62	8·21	6·40	7·70	6·71	5·97
1888	7·37	8·41	8·63	6·66	7·18	6·60	5·97
1889	6·82	8·33	7·86	6·52	6·99	6·50	5·91
Mean...	7·92	7·56	8·37	7·64	7·25	7·42	6·45

Marriages in each Colony of Australasia.

The following are the numbers of marriages registered in each of the colonies during the years 1876 to 1889:—

Year.	New South Wales.	Victoria.	Queensland.	South Australia.	Western Australia.	Tasmania.	New Zealand.
1876	4,630	4,949	1,394	1,852	191	746	3,196
1877	4,994	5,103	1,447	2,002	176	831	3,114
1878	5,317	5,092	1,444	2,299	182	866	3,377
1879	5,391	4,986	1,604	2,238	215	804	3,352
1880	5,572	5,286	1,547	2,291	214	840	3,181
1881	6,284	5,896	1,703	2,308	197	856	3,277
1882	6,948	6,309	2,034	2 530	215	969	3,600
1883	7,405	6,771	2,392	2,539	217	1,120	3,612
1884	7,482	7,218	2,661	2,555	230	1,003	3,800
1885	7,618	7,395	2,842	2,447	256	1,054	3,813
1886	7,811	7,737	2,785	1,976	297	985	3,488
1887	7,590	7,768	2,914	1,977	316	939	3,563
1888	7,844	8,946	3,254	2,084	304	951	3,617
1889	7,530	9,203	3,123	2,062	300	967	3,630

Factors influencing marriages.

As far as these colonies are concerned, the factors influencing the marriage-rate are—first, and chiefly, the general prosperity of the community; secondly, the number of marriageable males, and the occupations of the people. Judged by certain standard tests, which will be hereafter described, the prosperity of the people of New South Wales was perhaps greater than that of any of the other colonies during the period from 1880 to 1886; hence the high marriage-rate for that period compared with some of the other colonies.

Large number of single men in New South Wales.

The number of single men (bachelors and widowers) of marriageable age was, numerically, larger in New South Wales than in any of the other colonies, but, proportionately to the whole population, larger only than in Victoria, Tasmania, and South Australia during the year 1881. Under similar conditions it would, therefore, be natural to suppose that, were it not for the greater material prosperity of New South Wales, the marriage-rates of the remaining colonies would have been higher than in this Colony. Such, however, was not the case, for, as mentioned above, the rate for New South Wales is exceeded only by Queensland, over a series of years.

Marriage prospects of women.

Taking 1881, the only year available for comparison of the probabilities of marriage in each colony, it will be seen that the chance of marriage for a single woman was greatest in Queensland where it was nearly twice that of Victoria, and about one-third greater than in New South Wales:—

Marriage-rate per cent. of Single Women.

Colony.	Marriage per cent.	Colony.	Marriage per cent.
Queensland	9·75	Western Australia	6·55
New South Wales	7·48	Tasmania	5·45
New Zealand	7·39	Victoria	4·94
South Australia	7·10		

Number of persons signing with marks.

The number of persons signing the marriage register with marks has steadily declined for many years past; the proportion of signatures made with marks was, in 1871, 16·96 per cent. of the whole, while in 1889, the percentage had fallen to 3·35, thus showing a satisfactory decrease of illiteracy. The greatest number of persons signing with marks was recorded in the country districts

Illiteracy greater in country.

of the Colony, where, in 1871, 18·92 per cent. of the total signatures were so made, as against 13·94 in the city, and 10·98 in the suburbs of Sydney. The proportion of persons unable to write is still much higher in the country than in the metropolis, though it is satisfactory to note the reduction of the percentage from 18·92 in the year mentioned to 4·13 in 1889.

Percentage of Marks to Total Signatures of Persons signing Marriage Registers.

Year.	Metropolis.			Country Districts.	New South Wales.
	City of Sydney.	Suburbs.	Total.		
1871	13·94	10·98	13·50	18·92	16·96
1872	11·47	8·22	10·77	15·09	13·62
1873	10·73	8·38	10·26	16·53	14·26
1874	10·12	7·93	8·81	15·85	11·96
1875	10·67	3·28	8·77	14·21	12·26
1876	7·63	3·56	6·54	16·71	10·47
1877	8·30	5·85	7·58	11·10	9·76
1878	7·16	4·59	6·36	9·21	8·10
1879	6·42	4·34	5·70	8·85	7·58
1880	6·58	3·97	5·76	7·31	6·66
1881	5·41	4·24	5·05	8·34	6·94
1882	6·17	3·47	5·19	6·00	5·63
1883	5·00	4·00	4·60	7·28	6·10
1884	3·60	3·12	3·40	6·77	5·23
1885	3·76	2·03	3·34	5·99	4·74
1886	3·63	1·90	2·89	5·00	3·98
1887	2·85	1·23	2·12	4·68	3·50
1888	3·51	1·84	2·75	4·55	3·74
1889	3·09	1·59	2·39	4·13	3·35
Mean.	6·18	3·29	5·15	8·81	7·26

Illiteracy of women.

The amount of illiteracy, as displayed by inability to write, has for many years been greater amongst females than males. The next table shows that such was the case in every year since 1871, with the exception of the last two years, from which it would appear that women are now quite on a par with men in the acquirement of the rudiments of education. In 1871, the first year shown on the foregoing table, the number of women unable to sign their names, who were married, amounted to nearly one-fifth of the whole, but the proportion fell to 3 per cent. in 1889.

The following table gives the percentage of males and females signing the marriage registers with marks for every year since 1871.

Year.	Males signing with marks, per cent.	Females signing with marks, per cent.	Year.	Males signing with marks, per cent.	Females signing with marks, per cent.
1871	14	19	1881	5	8
1872	11	15	1882	5	6
1873	12	15	1883	5	6
1874	10	13	1884	4	5
1875	10	13	1885	4	5
1876	9	11	1886	4	4
1877	8	11	1887	3	4
1878	7	8	1888	4	3½
1879	6	8	1889	3½	3
1880	6	7			

Marriages chiefly by clergy.

The great bulk of the marriages are solemnized by the clergy; nevertheless, the number of persons married by registrars is fairly large, averaging 6·16 per cent. of the whole, during the past nineteen years.

Percentage of Marriages by the Clergy and at Registrars' offices.

Year.	Marriages by Clergy.	Marriages at Registrars' offices.	Year.	Marriages by Clergy.	Marriages at Registrars' offices.
1871	94·46	5·54	1882	93·75	6·25
1872	95·13	4·87	1883	93·44	6·56
1873	95·92	4·08	1884	92·82	7·18
1874	95·21	4·79	1885	93·30	6·70
1875	94·56	5·44	1886	93·18	6·82
1876	94·06	5·94	1887	93·31	6·69
1877	93·93	6·07	1888	93·49	6·51
1878	94·19	5·81	1889	93·24	6·76
1879	94·03	5·97			
1880	94·29	5·71	Average for 19 years ...	93·84	6·16
1881	93·76	6·24			

Church of England and Roman Catholic marriages.

As may naturally be expected, the largest number of marriages were celebrated by the Church of England, the Roman Catholic Church coming next; but the percentage of marriages celebrated by each of these Churches falls short of what might have been anticipated from their strength as shown by the census. This is noticeably the case with the Roman Catholic Church. The adherents of this denomination at the census of 1881 were 27·63 per cent. of the population, whereas the marriages solemnized

Roman Catholic marriages.

according to its rites during the year 1889 were only 17·11 per cent. of the whole marriages. To bring the number of Roman Catholic marriages up to the proper proportion they should increase at least 60 per cent. It is plain, therefore, that the adherents of this Church either do not marry within their own communion, or that they do not undertake the responsibilities of marriage to the same extent as other members of the community. The latter supposition is doubtless the correct explanation of the anomaly; for the adherents of the Roman Catholic Church are amongst the poorest in the Colony, and want of means is, perhaps, the chief cause of the comparatively small number of their marriages, though it is undoubtedly true that what are termed "mixed" marriages are numerous.

Marriages by Church of England

The disparity between the number of marriages solemnized by the clergy of the Church of England and what might be expected from the numerical strength of the denomination is not so great. During the year 1889 there were celebrated 2,885 marriages according to the rites of this Church, being 38·31 per cent. of the total marriages, while the estimated percentage of its adherents was 45·50. A glance at the following table will show that the number of marriages celebrated during 1889 by ministers of other denominations, notably the Presbyterian, Methodist, Congregational, and Baptist, far exceeded their apparent due proportions:—

Proportion of marriages by each denomination.

Marriages in 1889.

Denomination.	No. of Marriages.	Percentage of total Marriages.	Percentage of adherents to total population, census 1881.
Church of England	2,885	38·31	45·50
Roman Catholic	1,288	17·11	27·63
Presbyterian	979	13·00	9·66
Wesleyan and Primitive Methodist	1,024	13·60	8·58
Congregational	546	7·25	1·91
Baptist	167	2·22	0·98
Hebrew	35	0·46	0·44
Other Denominations	97	1·29	5·30
Registrars' Offices	509	6·76	
	7,530		

Marriages registered in the Colony, 1876–89.

Denomination.	1876.	1877.	1878.	1879.	1880.	1881.	1882.	1883.	1884.	1885.	1886.	1887.	1888.	1889.
Church of England..........	1,759	1,869	2,098	2,182	2,252	2,487	2,768	2,949	2,893	2,990	2,987	3,056	3,134	2,885
Roman Catholic................	921	990	1,009	982	1,021	1,171	1,315	1,414	1,448	1,258	1,323	1,221	1,350	1,288
Presbyterian	761	854	821	722	768	872	955	950	1,009	1,155	1,147	1,030	977	979
Wesleyan.......................	487	509	556	605	618	651	704	712	759	739	832	770	815	753
Primitive Methodist	101	110	94	111	101	146	134	157	165	193	207	227	256	271
Congregational.	232	243	291	331	364	433	516	565	484	532	554	536	534	546
Baptist	39	70	89	90	93	85	79	101	117	137	120	120	133	167
Hebrew...........................	14	20	20	22	17	27	22	24	27	27	18	27	32	35
German Evangelical	19	20	11	13	9	13	14	10	18	26	17	20	28	28
Christians........................	4	3	11	7	9	3	5	3	9	8	31	34	35	28
Salvation Army	...	...	...	...	...	...	...	3	3	3	11	10	22	26
Other Denominations.........	18	3	8	4	2	4	2	31	13	40	31	31	17	15
Registrars' Offices...	275	303	309	322	318	392	434	486	537	510	533	508	511	509
Total.............	4,630	4,994	5,317	5,391	5,572	6,284	6,948	7,405	7,482	7,618	7,811	7,590	7,844	7,530

DIVORCES.

Marriages dissolved.

The Matrimonial Causes Act was assented to on the 3rd of March, 1873. From 1875 to the end of 1889, 317 marriages have been dissolved, the largest number in any year being forty-four, during 1889. The subjoined table shows the number of decrees for dissolution of marriage granted during the period 1875–89 :—

Year.	Decrees for dissolution of marriage.	Year.	Decrees for dissolution of marriage.
1875	9	1884	27
1876	19	1885	23
1877	19	1886	32
1878	11	1887	25
1879	10	1888	28
1880	22	1889	44
1881	15		
1882	19	Total.........	317
1883	14		

Marriages of divorced persons.

The number of persons divorced in the Colony who married again cannot be ascertained, but during the fifteen years which ended with 1889, seventy men and sixty-six women, who had been divorced in New South Wales or elsewhere, were re-married. The largest number in any year was in 1889, when seventeen (eleven males and six females) divorced persons married again.

Year.	No. of divorced persons re-married.		Year.	No. of divorced persons re-married.	
	Males.	Females.		Males.	Females.
1875	1	....	1884	6	6
1876	2	1	1885	9	6
1877	1	3	1886	8	8
1878	2	3	1887	4	11
1879	4	2	1888	8	7
1880	....	1	1889	11	6
1881	1	5			
1882	2	2	Total......	70	66
1883	11	5			

The number of marriages last year between bachelors and divorced was four; widower and divorced, one; divorced and spinsters, nine; divorced and widow, one; and divorced and divorced, one. Strange to say, the last-mentioned was a re-marriage of parties who had previously been divorced from each other. A similar instance to this occurred a few years ago, when a couple, who had been divorced some ten years before in America, met in Sydney and were married by the Registrar-General.

BIRTH-RATE PER MARRIAGE.

Number of children born to a marriage.

The average number of children born to a marriage varies very little in these colonies, the average for the decennial period, 1880–1889, being 4·57, as shown below:—

Colony.	Average number of children per marriage.
New South Wales	4·59
Victoria	4·20
South Australia	4·67
Queensland	4·52
Western Australia	4·87
Tasmania	4·44
New Zealand	5·26
Average of Australasian Colonies	4·57

Children per marriage in United Kingdom.

The proportion of children shown above is somewhat higher than in the United Kingdom, though hardly so high as might have been expected, considering the circumstances of these colonies. The average number of children to a marriage in the United Kingdom is:—

England and Wales	4·30
Ireland	5·38
Scotland	4·56

The figures for Ireland are exceptionally high, which is somewhat surprising, as the average age of persons marrying there is much higher than in Australia. The lowest number of children born to a marriage in any of the important European countries is in France, where the average is only 3·04.

BIRTHS.

Mean annual birth-rate.

The mean annual birth-rate of this Colony is higher than that of any of the other Australasian Colonies with the exception of Queensland, as will be seen from the following decennial table:—

Australasia.—Birth-rates per 1,000 of Population.

Year.	New South Wales.	Victoria.	Queensland.	South Australia.	Western Australia.	Tasmania.	New Zealand.
1880	38·81	30·75	38·24	38·81	32·35	32·91	40·78
1881	38·13	31·24	36·98	37·11	33·67	33·40	37·95
1882	37·37	30·05	35·85	36·64	35·84	33·50	37·32
1883	37·49	30·23	36·92	36·65	33·87	34·25	36·28
1884	38·54	30·89	35·75	37·69	33·84	35·66	35·91
1885	37·64	31·27	36·92	37·70	35·21	35·08	34·35
1886	37·03	31·23	37·84	35·32	39·31	34·14	33·15
1887	36·42	32·40	38·09	35·07	37·94	33·87	31·71
1888	36·20	32·44	37·77	33·60	35·87	33·10	31·22
1889	33·78	32·92	36·27	32·64	37·14	31·96	30·07
Mean for 10 years	36·98	31·40	37·08	36·82	35·65	33·78	34·72

For further comparison the mean annual birth-rates for ten years (1879 to 1888) are given for several European countries; from which the high rate of New South Wales is still more apparent. The information in this table is taken from the report of the Registrar-General of England:—

Births per 1,000 of Population.

United Kingdom	31·69
England and Wales	32·98
Scotland	32·69
Ireland	23·96
France	24·33
Spain	36·64
Switzerland	28·66
Italy	37·17
Germany	37·22
Prussia	37·61
Austria	38·22
Hungary	44·07
Holland	34·79
Belgium	30·41
Denmark	32·25
Norway	30·94
Sweden	29·59

Increase of births.

The births in New South Wales have increased year by year since 1865, and now exceed those of any other colony. The superiority in regard to the number of births rested with Victoria until the year 1879, when the births in this Colony exceeded those of its southern neighbour by 94. During each of the last eleven years the excess has been maintained, the greatest being in 1886, when the births registered in New South Wales were more numerous than those registered in Victoria by 5,460. Last year the difference was 936 in favour of this Colony.

Number of births in each colony of Australasia.

The number of births registered in each of the colonies for the period 1876–88 is shown in the following table :—

Year.	New South Wales.	Victoria.	Queensland.	South Australia.	Western Australia.	Tasmania.	New Zealand.
1876	23,298	26,769	6,903	8,224	918	3,149	16,168
1877	23,851	26,010	7,169	8,640	912	3,211	16,856
1878	25,328	26,581	7,397	9,282	871	3,502	17,770
1879	26,933	26,839	7,870	9,902	977	3,564	18,070
1880	28,162	26,148	8,196	10,262	933	3,739	19,341
1881	28,993	27,145	8,220	10.708	1,005	3,918	18,732
1882	29,702	26,747	8,518	10,844	1,089	4,043	19,009
1883	31,281	27,541	9,890	11,173	1,058	4,259	19,202
1884	33,946	28,850	10,679	11,847	1,094	4,578	19,846
1885	35,043	29,975	11,672	12,046	1,200	4,637	19,693
1886	36,284	30,824	12,582	11,177	1,466	4,627	19,299
1887	37,236	33,043	13,513	10,831	1,557	4,736	19,135
1888	38,525	34,503	14,247	10,510	1,518	4,777	18,902
1889	37,295	36,359	14,401	10,318	1,594	4,757	18,457

Sex of children born.

In no year, as far as observation extends, has the number of females born exceeded the males. The numbers of each sex born in New South Wales since 1871 are given below :—

Year.	Males.	Females.	Total.	Year.	Males.	Females.	Total.
1871	10,326	9,817	20,143	1881	14,891	14,102	28,993
1872	10,276	9,974	20,250	1882	15,087	14,615	29,702
1873	10,952	10,492	21,444	1883	16,014	15,267	31,281
1874	11,323	10,855	22,178	1884	17,417	16,529	33,946
1875	11,380	11,148	22,528	1885	17,939	17,104	35,043
1876	11,791	11,507	23,298	1886	18,700	17,584	36,284
1877	12,292	11,559	23,851	1887	18,901	18,335	37,236
1878	13,082	12,246	25,328	1888	19,616	18,909	38,525
1879	13,840	13,093	26,933	1889	19,335	17,960	37,295
1880	14,424	13,738	28,162				

Births of males exceed females.

The excess of males born over females during the past nineteen years has varied from 2·08 per cent. in 1875 to 7·65 in 1889, the average being 4·81 per cent. The following table shows the proportion of males born to every 100 females:—

Year.	Males born to every 100 females.	Year.	Males born to every 100 females.
1871	105·18	1881	105·59
1872	103·03	1882	103·23
1873	104·38	1883	104·89
1874	104·31	1884	105·37
1875	102·08	1885	104·88
1876	102·47	1886	106·35
1877	106·34	1887	103·09
1878	106·83	1888	103·74
1879	105·71	1889	107·65
1880	105·00		

Births most numerous in spring.

Births are more numerous in spring than in any other portion of the year, and are fewest in the March quarter. This is found to be the case in the other colonies of Australasia as well as in New South Wales. The following table gives the number of births in each quarter of the year since 1877:—

Year.	31 March.	30 June.	30 September.	31 December.
1877	5,620	5,837	6,421	5,973
1878	5,962	6,165	6,976	6,225
1879	6,231	6,591	7,264	6,847
1880	6,590	7,116	7,230	7,226
1881	6,976	6,983	7,514	7,520
1882	7,195	7,273	7,827	7,407
1883	7,378	7,755	8,000	8,148
1884	8,141	8,443	9,160	8,202
1885	8,178	8,508	9,656	8,701
1886	8,451	8,976	9,592	9,265
1887	9,075	9,183	9,890	9,088
1888	9,058	9,651	10,162	9,654
1889	9,125	9,292	9,635	9,243

Birth-rate per thousand.

Separating the Colony into the divisions of city of Sydney, suburbs, and country districts, it will be seen from the following table that the birth-rate per thousand is much higher in the suburbs than in the other divisions. The highest rate reached for the whole Colony was 39·63, in 1871, which was also the year of the greatest birth-rate in the city. The estimated maximum ate for the suburbs was reached in 1884, when the births were 8·29 per thousand of the population. In the country districts he greatest number of births in proportion to the population ccurred in 1874, when the rate was 39·72 per thousand.

Annual birth-rate.

Annual Birth-rate of New South Wales.

Year.	Births per thousand of the population.				
	Metropolis.			Country Districts.	New South Wales.
	City of Sydney.	Suburbs.	Total.		
1871	38·91	42·62	40·56	39·29	39·63
1872	36·63	37·69	37·12	38·96	38·46
1873	38·09	40·55	39·22	39·44	39·38
1874	37·81	38·57	38·16	39·72	39·29
1875	37·44	37·92	37·67	38·86	38·53
1876	38·37	37·73	38·06	38·74	38·55
1877	38·13	37·18	37·67	38·02	37·92
1878	37·62	38·67	38·15	38·65	38·50
1879	38·48	39·84	39·18	38·92	38·99
1880	37·17	40·61	39·00	38·73	38·81
1881	35·84	41·92	39·13	37·71	38·13
1882	34·65	44·04	39·83	36·30	37·37
1883	33·24	44·90	39·80	36·46	37·49
1884	34·80	48·29	42·55	36·68	38·54
1885	31·81	46·63	40·63	36·21	37·64
1886	31·01	46·29	40·47	35·32	37·03
1887	30·19	44·34	39·17	35·03	36·42
1888	29·70	42·84	38·20	35·17	36·20
1889	27·70	39·81	35·66	32·82	33·78
Mean ...	34·59	42·48	39·01	37·05	37·65

Excess of births over deaths.

The excess of births over deaths has not shown a steady increase year by year, but has fluctuated somewhat, as will be seen from the succeeding table. In the whole Colony, during the nineteen years from 1871 to 1889, the least excess was 11,757 in 1875, the highest being 24,117 in the year 1888. In the city of Sydney the least excess was in 1875, viz., 489; the highest in 1887, when the number reached 1,835. The suburbs show a more progressive uniformity than the city. The least excess of births over deaths also occurred in 1875, when it was 1,261; the greatest excess was 6,039, being, as in the case of the city, in the year 1887. In the country districts the number ranged from 9,913, in 1876, to 16,668, in 1888.

Excess of Births over Deaths in New South Wales.

Year.	Metropolis.			Country Districts.	New South Wales.
	City of Sydney.	Suburbs.	Total.		
1871	1,397	1,718	3,115	10,621	13,736
1872	1,069	1,521	2,590	10,192	12,782
1873	1,265	1,766	3,031	10,802	13,833
1874	1,044	1,588	2,632	10,894	13,526
1875	489	1,261	1,750	10,007	11,757
1876	819	1,373	2,192	9,913	12,105
1877	1,399	1,925	3,324	10,658	13,982
1878	1,163	2,023	3,186	11,379	14,565
1879	1,448	2,499	3,947	12,786	16,733
1880	995	2,439	3,434	13,497	16,931
1881	1,495	3,065	4,560	12,897	17,457
1882	1,229	3,379	4,608	12,278	16,886
1883	1,523	3,819	5,342	13,690	19,032
1884	1,594	4,352	5,946	13,780	19,726
1885	1,250	4,523	5,773	13,988	19,761
1886	1,610	5,250	6,860	14,837	21,697
1887	1,835	6,039	7,874	15,914	23,788
1888	1,599	5,850	7,449	16,668	24,117
1889	1,431	5,575	7,006	15,493	22,499

Net annual increase.

net annual increase to the population by reason of the of births over deaths amounts to 2·27 per cent. for a period ing over nineteen years, that is going back to immediately the census of 1871. The rates of increase to population xcess of births over deaths in all the Australasian Colonies same period are :—

Colony.	Increase per cent.
aland	2·96
ustralia	2·41
uth Wales	2·27
land	2·17
n Australia	1·71
a	1·68
ia	1·61

Excess in favour of females.

withstanding that the number of males born is considerably than that of females, the actual increase of population from cess of births over deaths is, owing to the greater mortality st male children, greatly in favour of the females. During eteen years which closed with 1889, the number of females to the community by excess of births exceeded the males 087, or 16·73 per cent.

ILLEGITIMACY.

Illegitimacy increasing.

number of illegitimate births in the city, suburbs, and y districts, will be found in the following table. Taking ole period over which the tables extend, it will be seen that centage has increased throughout the Colony, notably in the city and suburbs of Sydney, the increase in the country districts being very slight, as shown in the table of percentages on page 449. As regards the city proper the increase in illegitimacy has been startling.

Number of Illegitimate Births.

Year.	Metropolis.			Country Districts.	New South Wales.
	City of Sydney.	Suburbs.	Total.		
1871	206	61	267	515	782
1872	182	66	248	568	816
1873	199	86	285	604	889
1874	241	88	329	606	935
1875	260	85	345	602	947
1876	306	88	394	556	950
1877	305	77	382	607	989
1878	317	108	425	596	1,021
1879	389	117	506	709	1,215
1880	411	150	561	665	1,226
1881	425	167	592	671	1,263
1882	440	161	601	660	1,261
1883	439	237	676	642	1,318
1884	527	259	786	709	1,495
1885	529	316	845	767	1,612
1886	533	372	905	782	1,687
1887	496	377	873	838	1,711
1888	567	482	1,049	909	1,958
1889	618	448	1,066	921	1,987

Illegitimacy in Sydney.

Dividing the years 1871 to 1889 into quinquennial periods, the average number of children born out of wedlock, compared with the total births, and with the legitimate children born during each period, was for the city of Sydney:—

Quinquennial Period.	Per cent. of total births.	Per cent. of legitimate births.
1871–75	7·13	7·70
1876–80	9·75	10·92
1881–85	12·23	13·96
1886–89	14·84	17·42

Illegitimate births.

The bare statement of these figures is a serious reflection upon the morals of the community. That during the past four years one child in every seven should have been born with the brand of illegitimacy is a startling revelation with regard to social morality. It is also a matter of State concern, as a very large percentage of these unfortunate children become a burden to the country from their birth, and it is from such that the pauper population of the Colony is largely recruited. Happily, as regards the city, the case is not so bad as it appears from the table. Not a few of the women whose children are born out of wedlock in the city really belong to the suburbs or country districts, but to what extent does not appear; possibly the smaller proportion of illegitimate births noticeable in the country districts is due to the fact that women who have fallen come to Sydney to hide their shame. The records of accouchements at the Benevolent Asylum certainly give colour to this supposition, for out of the large number of unmarried women whose confinements took place in that institution it is only reasonable to suppose that the suburbs and country contributed a large quota.

Cause of excess of illegitimacy in the city.

Accouchements in the Benevolent Asylum, Sydney.

Year.	No. of Confinements.	Married.	Unmarried	Year.	No. of Confinements.	Married.	Unmarried
1865	129	50	79	1878	160	38	122
1866	129	51	78	1879	203	45	158
1867	121	44	77	1880	233	51	182
1868	102	46	56	1881	225	50	175
1869	112	40	72	1882	237	45	192
1870	95	29	66	1883	210	33	177
1871	117	54	63	1884	305	84	221
1872	102	37	65	1885	262	55	207
1873	107	27	80	1886	300	71	229
1874	126	36	90	1887	257	76	181
1875	113	30	83	1888	281	70	211
1876	156	38	118	1889	252	48	204
1877	169	41	128				

Illegitimacy in the city and suburbs.

Taking the city and suburbs of Sydney together, the rates of illegitimacy during the five-year periods since 1871, are :—

Quinquennial Period.	Per cent. of total births.	Per cent. of Legitimate births.
1871–75	5·11	5·41
1876–80	6·21	6·65
1881–85	6·60	7·07
1886–89	7·26	7·83

The rates are much more favourable than those of the city taken separately, and perhaps represent the true state of affairs as regards illegitimacy more accurately than the table already given.

Dividing the illegitimate births of the whole Colony into the same periods as given for the city, their proportions, as compared with the total births, and with legitimate births, are :—

Quinquennial Period.	Per cent. of total births.	Per cent. of Legitimate births.
1871–75	4·09	4·27
1876–80	4·22	4·42
1881–85	4·36	4·57
1886–89	4·92	5·17

Colony compares favourably with other countries.

Taken as a whole, the Colony compares favourably with most other countries, though its rate as computed for ten years is higher than that of any other of the Colonies, with the exception of Victoria.

Percentage of Illegitimate Births to Total Births in the Australasian Colonies and United Kingdom.

Country.	Illegitimate births per cent.	Country.	Illegitimate births per cent.
New South Wales	4·61	Tasmania	4·05
Victoria	4·71	New Zealand	2·95
Queensland	4·14	England and Wales..	4·78
South Australia	2·35	Ireland	2·65
Western Australia	4·24	Scotland	8·30

Of the total number of children born in Australasia during the last ten years 4·05 per cent. were illegitimate.

Illegitimacy in Foreign States

The following figures, taken from Mulhall's Dictionary of Statistics, show the percentage of illegitimate births in various countries:—

Percentage of Illegitimate Births.

Denmark	11·2	Spain	5·5
Sweden	10·2	Portugal	5·5
Norway	8·5	Canada	5·0
Germany	8·4	Switzerland	4·6
France	7·2	Holland	3·5
Belgium	7·0	Russia	3·1
United States	7·0	Greece	1·6
Italy	6·8		

The rate of illegitimate births in Austria was 12·9 per cent., a ratio much larger than that of any country included in the above table, the excessive number of children born out of wedlock being occasioned by the extraordinary laws formerly enforced by the government of the Austrian Empire, regulating the age before which a man was incapable of contracting a legal marriage.

The rates for all these colonies are smaller than those of England and Scotland, but illegitimacy is increasing here, while it is decreasing in the United Kingdom.

Percentage of illegitimacy to total births.

Illegitimate Births—Percentage to Total Births in New South Wales.

Year.	Metropolis.			Country Districts.	New South Wales.
	City of Sydney.	Suburbs.	Total.		
1871	6·91	2·34	4·78	3·53	3·88
1872	6·32	2·70	4·66	3·80	4·02
1873	6·49	3·11	4·89	3·86	4·14
1874	7·72	3·15	5·56	3·72	4·21
1875	8·22	2·92	5·68	3·65	4·20
1876	9·24	2·87	6·19	3·28	4·07
1877	8·97	2·37	5·75	3·52	4·14
1878	9·09	2·93	5·94	3·28	4·03
1879	10·47	2·82	6·44	3·72	4·51
1880	11·00	3·25	6·71	3·36	4·35
1881	11·36	3·23	6·64	3·34	4·36
1882	11·72	2·74	6·24	3·28	4·24
1883	11·68	3·62	6·59	3·05	4·21
1884	12·76	3·34	6·62	3·21	4·40
1885	13·61	3·77	6·89	3·37	4·60
1886	13·90	4·00	6·89	3·38	4·65
1887	13·13	3·91	6·50	3·52	4·59
1888	15·07	4·85	7·65	3·66	5·08
1889	17·41	4·57	7·99	3·84	5·33

TWINS AND TRIPLETS.

Triplets and Twins.

During the year 1889 there was one case of triplets, which occurred at Waverley, a suburb of Sydney. Twins numbered 329 cases, comprising 358 males and 298 females, in all 656 children, two others being still-born. There were 14 cases of illegitimate twins. The number of children born as triplets and twins forms 1·8 per cent. of the total births.

District.	Triplets.				Twins.			
	No. of cases.	M.	F.	Total.	No. of cases.	M.	F.	Total.
Sydney...	......	......	......	......	22	28	15	43*
Suburbs..	1	2	1	3	111	127	94	221*
Country..	......	......	......	......	196	203	189	392
	1	2	1	3	329	358	298	656

Twins and Triplets born in New South Wales.

Year.	Triplets.				Twins.			
	No. of cases.	M.	F.	Total.	No. of cases.	M.	F.	Total.
1880	......	......	......	......	224	230	218	448
1881	4	8	4	12	224	219	227	446†
1882	......	......	......	......	213	217	208	425*
1883	2	3	3	6	287	277	297	57
1884	4	6	6	12	288	277	295	572‡
1885	2	5	1	6	306	305	307	612
1886	1	......	3	3	330	284	373	657§
1887	1	3	......	3	310	294	325	619*
1888	1	1	2	3	363	371	355	726
1889	1	2	1	3	329	358	298	656†
	16	28	20	48	2,874	2,832	2,903	5,735

* One still-born. † Two still-born. § Three still-born. ‡ Four still-born.

As stated in the foregoing table there were 2,874 cases of twins and 16 cases of triplets during the ten years 1880–89. The total number of confinements recorded in this period was

Twins and triplets born.

333,571. It follows, therefore, that one mother in every 116 gave birth to twins, and one mother in every 20,848 was delivered of three children at a birth.

DEATHS.

The number of deaths occurring in the Colony during the last nineteen years averages annually 16·19 for males, and 13·78 for females, per thousand persons, or 15·10 for the whole population. Compared with the death-rates of other countries, especially those of the Old World, this rate is remarkably low. Yet, as will presently appear, it is higher than might be anticipated from the peculiarly healthy climatic conditions which pertain to New South Wales.

Mean death-rate.

The mean decennial death-rate of the Australasian Colonies from 1880 to 1889 varies from 10·56 per thousand, in New Zealand, to 16·94, in Queensland, and averages 14·31, to which the New South Wales rate is the nearest approach. Five colonies are over the mean rate:—Queensland, with 16·94; Western Australia, 16·76; Tasmania, 15·25; Victoria, 15·13; and New South Wales, 14·79 per thousand, while only two are lower,—South Australia, 13·74; and New Zealand, 10·56 per thousand.

Mean Death-rate of the Australasian Colonies.

Year.	New South Wales.	Victoria.	Queensland.	South Australia.	Western Australia.	Tasmania.	New Zealand.
1880	15·48	13·70	14·08	14·79	13·24	16·12	11·46
1881	15·17	14·16	14·93	13·90	13·80	14·77	11·13
1882	16·12	15·32	17·99	14·84	14·16	15·79	11·19
1883	14·68	14·28	18·82	14·55	17·93	17·06	11·45
1884	16·14	14·46	22·97	15·24	21·87	15·50	10·39
1885	16·41	14·98	19·72	12·28	17·60	15·40	10·61
1886	14·88	15·15	16·77	13·38	21·56	14·58	10·54
1887	13·15	15·69	14·56	12·77	17·11	15·45	10·17
1888	13·54	15·31	14·66	12·02	15·90	14·11	9·43
1889	13·40	17·56	15·44	11·07	14·24	14·10	9·40
Mean... ...	14·79	15·13	16·94	13·74	16·76	15·25	10·56

Deaths in each Colony of Australasia.

The numbers of deaths registered in each of the Colonies during the years 1876 to 1889 are here given :—

Deaths in each Colony of Australasia.

Year.	New South Wales.	Victoria.	Queensland.	South Australia.	Western Australia	Tasmania.	New Zealand.
1876	11,193	13,561	3,467	3,550	383	1,733	4,904
1877	9,869	12,776	3,373	3,235	433	2,040	4,685
1878	10,763	12,702	4,220	3,749	394	1,700	4,645
1879	10,200	12,120	3,207	3,580	411	1,688	5,583
1880	11,231	11,652	3,017	3,912	382	1,832	5,437
1881	11,536	12,302	3,320	4,012	412	1,733	5,491
1882	12,816	13,634	4,274	4,393	430	1,906	5,701
1883	12,249	13,006	5,041	4,435	560	2,122	6,061
1884	14,220	13,505	6,861	4,788	707	1,990	5,740
1885	15,282	14,364	6,235	3,970	600	2,036	6,081
1886	14,587	14,952	5,575	4,234	806	1,976	6,135
1887	13,448	16,005	5,166	3,944	702	2,161	6,137
1888	14,408	16,287	5,529	3,759	673	2,036	5,708
1889	14,796	19,392	6,132	3,501	611	2,098	5,772

Death-rate of males and females compared.

The death-rate of males averages in this Colony 16·19 per thousand, or more than one-sixth higher than that of females. The deaths of both sexes will be seen below :—

Deaths, and Death-rate of New South Wales.

Year.	Males.	Females.	Total.	Death Rate per 1,000 of mean population.		
				Males.	Females.	Total.
1871	3,882	2,525	6,407	13·98	10·95	12·61
1872	4,442	3,026	7,468	15·45	12·66	14·18
1873	4,599	3,012	7,611	15·50	12·15	13·98
1874	5,022	3,630	8,652	16·35	14·11	15·33
1875	6,245	4,526	10,771	19·64	16·97	18·42
1876	6,508	4,685	11,193	19·82	16·98	18·52
1877	5,877	3,992	9,869	17·19	13·91	15·69
1878	6,284	4,479	10,763	17·55	14·94	16·36
1879	6,082	4,118	10,200	16·16	13·10	14·77
1880	6,638	4,593	11,231	16·76	13·94	15·48
1881	6,753	4,783	11,536	16·23	13·90	15·17
1882	7,596	5,220	12,816	17·46	14·51	16·12
1883	7,116	5,133	12,249	15·58	13·59	14 68
1884	8,325	5,895	14,220	17·24	14·81	16·14
1885	8,900	6,382	15,282	17·40	15·22	16·41
1886	8,501	6,086	14,587	15·76	13·82	14·88
1887	7,776	5,672	13,448	13·82	12·34	13·15
1888	8,453	5,955	14,408	14·41	12·46	13·54
1889	8,674	6,122	14,796	14·25	12·36	13·40
Mean for 19 years				16·19	13·78	15·10

Greater mortality amongst males.

The principal cause of the greater mortality amongst males is found in the nature of their occupations, with the accidents and exposure attendant thereon. This is especially marked in the country districts of the Colony, where deaths from accident are extremely numerous, especially among males. Besides this, the greater delicateness of male infants operates to increase the death-rate as compared with that of females. It has been shown elsewhere that the natural increment to the population by births is in the proportion of 104·81 males to 100 females ; but, from the causes alluded to, the net increase of population by excess of births over deaths is largely in favour of females. For the five years, 1885–9, this excess averaged 14·35 per cent. annually.

Comparison of male with female deaths.

The excess of males in the community, with the consequent larger number of male deaths, makes the comparison appear more favourable to female lives than is actually the case. The following table has been computed on the assumption that the males and females in the community are equal in number, as they soon would be if it were not for the excess of males yearly added to the population by immigration. It would appear, however, from the table, that the extra proportion of males born does not counterbalance the extra number of male deaths.

Male birth in excess.

Male and Female Deaths.

Year.	Male deaths.	Female deaths.	Computed male deaths, if male and female population were equal.	Excess of computed male over female deaths.	Excess of male over female births.
1880	6,638	4,593	5,523	930	686
1881	6,753	4,783	5,585	802	789
1882	7,596	5,220	6,278	1,058	472
1883	7,116	5,133	5,884	751	747
1884	8,325	5,895	6,863	968	888
1885	8,900	6,382	7,296	914	835
1886	8,501	6,086	6,941	855	1,116
1887	7.776	5,672	6,354	682	566
1888	8,453	5,955	6,885	930	707
1889	8,674	6,122	7,058	936	1,375
Total for ten years.......................				8,826	8,181

Deaths most numerous in March quarter.

The season of the year in which deaths are most numerous is the quarter ending March, but the number of deaths in the December quarter is nearly as great, and for some years has exceeded that of the first quarter. The deaths in 1889, while slightly more numerous than in 1888, when compared with the population present a lower death-rate than is shown for any year since 1871 with the exception of 1887. Taking the last ten years the deaths during each quarter of the year were :—

Deaths during each Quarter of the Year.

Year.	31 March.	30 June.	30 September.	31 December.
1880	2,677	2,621	2,571	3,362
1881	3,169	2,825	2,608	2,934
1882	3,485	3,290	2,911	3,130
1883	3,125	3,081	2,790	3,253
1884	3,699	3,602	3,126	3,793
1885	3,924	3,750	3,586	4,022
1886	3,718	3,720	3,320	3,829
1887	3,980	3,362	2,805	3,301
1888	3,624	3,595	3,387	3,802
1889	4,101	3,728	3,158	3,809

Favourable death-rate of Colony.

It has been already pointed out that in regard to its death-rate the Colony compares very favourably with the older countries of the world. Taken over a decennial period (1879–88), the average deaths per thousand of mean population in the United Kingdom and several of the leading European countries, are :—

United Kingdom	19·21	Austria	29·80
England and Wales	19·35	Hungary	33·77
Scotland	19·24	Holland	21·48
Ireland	18·40	Belgium	20·76
France	22·26	Denmark	18·86
Spain	31·06	Norway	16·50
Switzerland	21·14	Sweden	17·34
Italy	27·86		
Germany	25·45	Average	25·00
Prussia	24·95		

Contrast this with the mean decennial rates (1880–89) in the Colonies :—

New South Wales	14·79	Tasmania	15·25
Victoria	15·13	New Zealand	10·56
Queensland	16·94		
South Australia	13·74	Average, Australasia	14·31
Western Australia	16·76		

Death-rate lower in Australia than Europe.

are many causes operating to increase the European rate, ave not yet affected the colonies. Chief amongst these scourges of small-pox and cholera. It is not, therefore, ıg that even the healthiest country of Europe should igher annual death-rate than any Colony of Australasia. ring the favourable environments of the population in outh Wales, the matter for surprise is not that the e is so great but that it is not greater. Apart from conditions, which are most favourable here, the social n of the great body of the people is far superior, and cupations more healthful than in Europe; and were it not pitiable loss of infant life, the death-rate of this Colony ot reach much more than half the European average.

Mortality in the Colony and its subdivisions.

he purpose of comparison, the obvious divisions of city, and country districts suggest themselves, and the annual te of each subdivision of the Colony for the years 1871–89 in the subjoined table:—

ths in New South Wales, per Thousand of Population.

	Metropolis.			Country Districts.	New South Wales.
	City of Sydney.	Suburbs.	Total.		
	20·67	14·46	17·92	10·63	12·61
	23·03	14·15	19·03	12·37	14·18
	22·37	14·63	18·83	12·15	13·98
	25·16	16·59	21·16	13·12	15·33
	31·65	21·47	26·81	15·23	18·42
	28·87	20·79	24·96	16·05	18·52
	22·43	15·13	18·82	14·47	15·69
	25·06	17·37	21·17	14·44	16·36
	23·47	15·83	19·51	12·83	14·77
	27·26	19·17	22·97	12·34	15·48
	21·52	17·07	19·11	13·49	15·17
	23·30	18·71	20·77	14·09	16·12
	19·76	18·65	19·14	12·68	14·68
	21·37	21·15	21·24	13·78	16·14
	21·58	21·46	21·51	13·97	16·41
	17·99	20·15	19·32	12·69	14·88
	15·52	16·57	16·19	11·62	13·15
	17·08	17·64	17·44	11·55	13·54
	16·53	17·15	16·94	11·59	13·40
......	21·87	18·13	19·78	13·04	15·10

Variations in death rates.

The death-rate for the whole Colony varied from 12·61 to 18·52, a range of 5·91 per thousand. In the city, however, the rate varied between 15·52 and 31·65, the range being 16·13 per thousand; in the suburbs the lowest rate was 14·15, and the highest touched 21·47, giving a range of 7·32 per thousand. In the country districts 10·63 was the lowest rate in the nineteen years, and 16·05 the highest, 5·42 being the range.

Maximum, Minimum, and Mean Death-rate.

Districts.	Per 1,000 of mean population.		
	Maximum.	Minimum.	Mean.
City of Sydney	31·65	15·52	21·87
Suburbs	21·47	14·15	18·13
Metropolis (Sydney and Suburbs)	26·81	16·19	19·78
Country Districts	16·05	10·63	13·04
New South Wales	18·52	12·61	15·10

Death-rate of persons over 5 years.

Taking the deaths of persons over 5 years of age, the rates for the metropolitan district and the country are not only more favourable but more equal.

Death-rates of Persons over Five Years of Age.

Districts.	Per 1,000 of mean population.		
	Maximum.	Minimum.	Mean.
City of Sydney	19·70	10·25	14·51
Suburbs	11·46	7·64	9·75
Metropolis (Sydney and Suburbs)	15·51	9·98	11·86
Country Districts	11·71	7·97	9·29
New South Wales	12·78	8·70	10·08

Infant mortality cause of high death-rate in city and suburbs.

The city maximum rate was in 1876, and is the disturbing element in the whole series, otherwise the death-rates are particularly favourable for these ages. Turning to deaths under 5 years, which may be generally termed the ages of infantile life, the chief factor of the excessive death-rate of the city and suburbs will be found.

Death-rates of Children under Five Years of Age.

Districts.	Per 1,000 of mean population.		
	Maximum.	Minimum.	Mean.
City of Sydney	105·64	50·50	70·48
Suburbs	86·99	46·02	68·14
Metropolis (Sydney and Suburbs)	93·32	54·94	69·12
Country Districts	40·37	24·00	33·72
New South Wales	53·64	32·56	43·77

The lesson conveyed by the above table is a very striking one. The minimum death-rate of infants in the Metropolis exceeded the maximum rate of the country by 36 per cent., and the mean rate of the country was not half the metropolitan. That the most favourable rates in the city and suburbs should each be less than the metropolitan is explained by the fact that the minimum rates in both divisions did not occur in the same year.

Natural salubrity of the Colony.

When the circumstances of life in the country districts are considered, the distance sick persons are removed from the comforts, and even the necessaries, which sickness demands, the full meaning of the low rate, both for adults and children, will best be understood. No more potent argument could be advanced as to the natural salubrity of the Colony than the statement of the death-rates, as recorded outside the walls of the metropolis.

Death-rate of children lowest in the country.

All satisfaction, however, in regard to the low death-rate is confined to the country districts. As far as Sydney and its suburbs are concerned, there is no cause for congratulation; on the contrary, the rate at which children of tender years drop into the grave forms a pathetic commentary on the civilization of the Colony. Taking the whole period embraced in the table, the death-rates of children under 5 years were 70 per thousand in the city, and 68 per thousand in the suburbs. During the ten years, 1871 to 1880, the suburbs could boast a death-rate of one-third less than the city; the rates then gradually approached an equality, but since 1885 the suburban has been the higher of the two. The following quinquennial table has been compiled in order to illustrate the gradual change which has occurred since 1871:—

Comparison of quinquennial periods.

Death-rate of New South Wales in Quinquennial Periods per thousand of population.

Quinquennial records.	Metropolis.			Country Districts.	New South Wales.
	City of Sydney.	Suburbs.	Total.		
		All ages.			
1871–75	24·69	16·46	20·91	12·77	14·99
1876–80	25·41	17·63	21·46	13·96	16·10
1881–85	21·49	19·62	20·43	13·61	15·73
1886–89	16·78	17·81	17·44	11·85	13·72
		Over 5 years.			
1871–75	15·94	8·87	12·72	9·25	10·21
1876–80	16·82	8·97	12·82	9·86	10·73
1881–85	14·76	10·43	12·32	9·63	10·48
1886–89	11·03	9·94	10·34	8·48	9·11
		Under 5 years.			
1871–75	75·45	56·35	66·28	30·55	39·78
1876–80	80·52	74·43	77·45	35·80	46·36
1881–85	67·77	77·28	73·35	35·99	46·63
1886–89	58·51	62·96	61·57	31·91	41·62

Improvement in city rate.

A remarkable improvement may be noticed in the death-rate of the city, both for ages over and under 5 years. In the country, during the second quinquennial period, the rate showed an increase, particularly amongst infant lives; but the third period is marked by a slight recovery, which is quite eclipsed by the striking decline in the death-rates of 1886–89. As regards the suburbs the signs are not so assuring, for although a considerable improvement is manifest in 1886–89, the previous five years are much higher than in the two preceding quinquennial periods; and during the last four years the death-rates of persons under five years were considerably higher than in the city or the country. The following tables show the mortality in the city and suburbs of Sydney and in the country districts from 1871 to 1889. In the first will be found the actual number of deaths, and in the second the proportion of children under five years, and of persons over that age, who died, as compared with the whole population :—

Deaths of persons under and over 5 years.

Deaths in New South Wales, 1871–89.

Year.	Children under 5 years.				Persons over 5 years.			
	City.	Suburbs.	Country.	N.S.W.	City.	Suburbs.	Country.	N.S.W.
1871	743	487	1,475	2,705	840	396	2,466	3,702
1872	815	503	1,885	3,203	995	412	2,858	4,265
1873	719	510	1,695	2,924	1,081	487	3,119	4,687
1874	929	672	2,167	3,768	1,148	527	3,209	4,884
1875	1,264	913	2,781	4,958	1,409	734	3,670	5,813
1876	1,024	917	2,730	4,671	1,467	768	4,287	6,522
1877	815	723	2,755	4,293	1,185	598	3,793	5,576
1878	1,022	920	2,942	4,884	1,299	731	3,849	5,879
1879	899	902	2,568	4,369	1,367	746	3,718	5,831
1880	1,293	1,276	2,341	4,910	1,447	904	3,970	6,321
1881	848	1,147	2,894	4,889	1,398	959	4,290	6,647
1882	990	1,355	3,107	5,452	1,535	1,142	4,687	7,364
1883	940	1,455	2,909	5,304	1,293	1,260	4,392	6,945
1884	1,053	1,838	3,337	6,228	1,482	1,553	4,957	7,992
1885	1,043	2,091	3,478	6,612	1,593	1,766	5,311	8,670
1886	919	2,150	3,225	6,294	1,305	1,895	5,093	8,293
1887	770	1,828	3,022	5,620	1,172	1,776	4,880	7,828
1888	913	2,122	3,172	6,207	1,250	1,973	4,978	8,201
1889	961	2,278	3,284	6,523	1,158	1,941	5,174	8,273

Death-rate of persons under and over 5 years.

Death-rate in New South Wales under and over Five Years of age per Thousand of Mean Population.

Year.	Children under 5 years.				Persons over 5 years.			
	City.	Suburbs.	Country.	N.S.W.	City.	Suburbs.	Country.	N.S.W.
1871	65·35	47·57	24·00	32·56	12·87	7·79	7·97	8·70
1872	69·26	46·95	29·58	37·16	14·89	7·64	9·31	9·68
1873	59·91	46·02	25·84	32·97	15·79	8·53	9·44	10·28
1874	76·51	59·18	32·07	41·37	16·30	8·65	9·38	10·31
1875	105·64	80·35	40·37	53·64	19·43	11·23	10·35	11·81
1876	86·55	80·71	38·52	49·66	19·70	11·02	11·71	12·78
1877	67·42	61·56	37·83	44·41	15·38	7·91	9·98	10·47
1878	82·08	73·91	39·77	49·39	16·20	8·85	9·71	10·51
1879	69·34	67·13	33·88	42·75	16·35	8·22	8·97	9·90
1880	95·30	86·99	31·62	45·83	16·61	9·12	9·07	10·21
1881	61·79	71·00	35·21	43·63	15·42	8·94	9·52	10·25
1882	70·27	74·93	36·66	46·61	16·38	9·90	10·00	10·86
1883	65·32	73·48	33·12	43·46	13·11	10·02	9·00	9·75
1884	71·49	82·22	36·98	48·92	14·26	11·25	9·68	10·60
1885	69·59	81·50	37·84	49·86	14·86	11·46	9·89	10·86
1886	60·91	74·92	34·03	45·42	12·02	11·01	9·08	9·86
1887	50·50	57·05	30·82	38·66	10·67	9·58	8·39	8·92
1888	59·27	60·60	31·33	40·92	11·24	10·01	8·24	8·99
1889	63·42	61·06	31·56	41·68	10·25	9·30	8·27	8·73
Mean...	70·48	68·14	33·72	43·77	14·51	9·75	9·29	10·08

Deaths of children under 1 year.

The following table gives the number of children under 1 year dying in the city, suburbs and country; and the number per thousand, as compared with the births. This latter approximately represents the proportion of children born who died within a year.

Deaths of Children under One Year of Age.

Year.	Metropolis.						Country Districts.		New South Wales.	
	City of Sydney.		Suburbs.		Total.					
	Deaths under 1.	Per 1,000 births.	Deaths under 1.	Per 1,000 births.	Deaths under 1.	Per 1,000 births.	Deaths under 1.	Per 1,000 births.	Deaths under 1.	Per 1,000 births.
1871	467	156·7	318	122·2	785	140·7	1,027	70·5	1,812	89·9
1872	507	176·1	339	139·1	846	159·2	1,270	85·0	2,116	104·4
1873	487	158·8	341	123·4	828	142·1	1,157	74·0	1,985	92·5
1874	588	188·4	403	144·6	991	167·7	1,437	88·3	2,428	109·4
1875	613	193·8	461	158·5	1,074	176·9	1,621	98·4	2,695	119·6
1876	561	169·4	521	170·3	1,082	169·9	1,547	91·3	2,629	112·8
1877	562	165·3	476	146·6	1,038	156·2	1,747	101·5	2,785	116·7
1878	650	186·5	591	160·8	1,241	173·4	1,885	103·7	3,126	123·4
1879	612	164·7	594	143·2	1,206	153·4	1,680	88·0	2,886	107·1
1880	785	210·1	821	177·7	1,606	192·2	1,594	80·4	3,200	113·6
1881	608	162·5	836	161·6	1,444	162·0	1,897	94·4	3,341	115·2
1882	737	196·3	1,028	174·9	1,765	183·3	2,132	106·2	3,897	131·2
1883	668	177·8	1,012	154·8	1,680	163·2	1,910	90·9	3,590	114·7
1884	769	186·2	1,272	164·2	2,041	171·9	2,244	101·6	4,285	126·2
1885	780	200·7	1,512	180·4	2,292	185·8	2,304	101·1	4,596	131·1
1886	702	183·1	1,573	169·2	2,275	173·3	2,360	101·9	4,635	127·7
1887	573	151·7	1,317	136·6	1,890	140·8	2,055	86·3	3,945	105·9
1888	640	170·1	1,444	145·2	2,084	152·0	2,187	88·1	4,271	110·9
1889	706	198·9	1,595	162·8	2,301	172·4	2,371	99·0	4,672	125·3
Mean..............	......	179·2	......	157·3	....	165·8	......	92·8	......	115·9

Infant mortality greater in towns.

The experience of the United Kingdom shows that infant mortality is always higher in large towns than in the country districts. The experience of this Colony is somewhat similar. But, though the conditions of life in England are more favourable in the country districts than in the towns, the same is not necessarily the case here. In sparsely scattered communities, such as the country districts of this Colony mainly comprise, it is frequently impossible to obtain for children of tender years articles which in towns are considered, and rightly so, almost necessaries of life. Were it not, therefore, for the contagions which seem incidental to towns, the death-rate of children might naturally be expected to be, so far as this Colony is concerned, higher in the country than in the city. That such is not the case is evident from the foregoing table. Compared with the other colonies, and England and France, the rates of New South Wales, nevertheless, seem very favourable, as will be seen on reference to the following table, which gives the mean annual rates calculated for a period of ten years:—

The Colonies compared with England and France.

Death-rates of Children under One Year in the Australasian Colonies, England, and France.

Country.	Deaths of children under 1 year per 1,000 births.
New South Wales	120·17
,, ,, Sydney and suburbs	168·61
,, ,, country districts	95·03
Victoria	126·00
,, Melbourne and suburbs	175·14
,, country districts	93·17
Queensland	126·90
South Australia.	123·76
Western Australia	130·24
Tasmania	106·19
New Zealand	88·84
England and Wales	141·14
,, London	151·78
Scotland	117·01
France	157·00

Colony compares favourably with other countries.

The general salubrity of the Colony may be taken as well established, and if the deaths of Sydney and suburbs, especially amongst young children, were not relatively more numerous than for the rest of the Colony, New South Wales need not fear comparison with any country.

The high death-rates of Sydney certainly do not arise from natural causes. Seated on the hilly shores of Port Jackson, its situation is all that could be desired, and the configuration of the ground on which it stands is especially adapted to the requirements of a perfect drainage system. What Nature with lavish hand has bestowed, is, however, in danger of being destroyed or polluted; for looking through the causes of death the conclusion is inevitable that no small part of the mortality of Sydney and its suburbs arises primarily, or indirectly, from diseases which sanitary precautions might avert.

Sydney compares well with other capitals.

With the exception of Hobart and Wellington, there is not much difference in the mean annual death-rates of the capitals of the Australasian Colonies. The rates for a single year, however, do not present such uniformity, as will be seen by the following figures for 1889—Hobart, 20·2; Melbourne, 23·4; Perth, 19·9; Brisbane, 18·3; Sydney, 16·9; Adelaide, 15·4; and Wellington, 12·6. Of course the suburbs of the various cities are included in these calculations. Compared with cities in other parts of the world the result is generally favourable to Australasia.

Mean Death-rates of the chief Australasian, European, and American cities.

Australasia.

Hobart	23·9	Brisbane	19·5
Melbourne	20·7	Adelaide	19·1
Perth	20·0	Wellington	15·1
Sydney	19·1		

United Kingdom.

Dublin	27·1	Sheffield	21·6
Liverpool	26·7	London	21·1
Cork	26·1	Edinburgh	20·2
Manchester	25·5	Birmingham	19·8
Glasgow	25·3	Portsmouth	19·7
Plymouth	22·3	Bristol	19·6
Newcastle	21·8	Brighton	19·0

Continental Europe.

Madrid	38.3	Berlin	25·6
St. Petersburg	35·2	Paris	24·5
Buda-Pesth	33·1	Amsterdam	24·3
Prague	32·3	Stockholm	23·4
Breslau	31·2	Copenhagen	23·0
Munich	30·7	Venice	22·7
Milan	29·1	Brussels	22·6
Rome	27·3	Rotterdam	22·6
Vienna	26·9	The Hague	22·4
Cologne	26·2	Geneva	21·2
Leipsic	26·1	Christiania	20·6
Hamburg	25·7		

America.

Montreal	27·9	Toronto	21·5
New York	26·2	Baltimore	21·1
Brooklyn	25·6	San Francisco	20·7
Boston	23·5	Philadelphia	20·3
New Orleans	22·7	St. Louis	19·3

This list is fairly representative, and largely as the rate for Sydney is swollen by the deaths of children of tender years, whose lives are often needlessly sacrificed, the comparison is satisfactory.

The following table shows the numbers of deaths at all ages during the year 1889, distinguishing those which occurred in the City and suburbs of Sydney and in the country districts :—

	Under 1 year.	1 to 2 years.	2 to 3 years.	3 to 4 years.	4 to 5 years.	5 to 10 years.	10 to 15 years.	15 to 20 years.	20 to 25 years.	25 to 30 years.	30 to 35 years.	35 to 40 years.	40 to 45 years.	45 to 50 years.	50 to 55 years.	55 to 60 years.	60 to 65 years.	65 to 70 years.	70 to 75 years.	75 to 80 years.	80 to 85 years.	85 to 90 years.	90 to 95 years.	95 to 100 years.	100 years and upwards.	Age not specified.	Total.
Males—																											
Sydney	377	83	27	16	12	19	17	18	42	72	70	55	73	68	53	40	47	35	28	25	12	6	2	1	...	2	1,200
Suburbs	887	195	61	41	29	55	40	42	61	94	85	85	75	73	85	82	71	62	58	44	30	15	4	4	...	3	2,281
Country	1,304	247	96	54	53	145	112	127	162	235	199	201	178	231	263	259	288	245	259	227	164	83	19	10	7	25	5,193
Total	2,568	525	184	111	94	219	169	187	265	401	354	341	326	372	401	381	406	342	345	296	206	104	25	15	7	30	8,674
Females—																											
Sydney	329	80	20	9	8	17	6	35	50	48	34	31	44	35	25	31	35	23	20	18	13	5	2	...	...	1	919
Suburbs	708	216	61	45	35	60	31	41	66	81	79	70	54	63	49	56	38	47	45	42	29	15	6	...	...	1	1,938
Country	1,067	274	98	49	42	120	73	101	125	137	113	109	86	112	94	99	78	108	118	116	80	40	12	10	2	2	3,265
Total	2,104	570	179	103	85	197	110	177	241	266	226	210	184	210	168	186	151	178	183	176	122	60	20	10	2	4	6,122
Total, both sexes	4,672	1,095	363	214	179	416	279	364	506	667	580	551	510	582	569	567	557	520	528	472	328	164	45	25	9	34	14,796

The number of persons of the age of 70 years and upwards who died during the year was 1,571, and of these 998 were males and 573 females. The numbers in the city and suburbs of Sydney, and in the country districts, are given in the foregoing table. There were exactly 1,000 between the ages of 70 and 80 years, 492 between 80 and 90 years, 70 between 90 and 100 years, and 9 centenarians. Of these latter one male aged 100 died at Cootamundra, two aged 101 and 104 at Adelong, one aged 102 at Raymond Terrace, one aged 106 at Wallsend, and two aged 102 and 109 at Parramatta; the other two being females, one of whom aged 100 died at Bungendore, near Queanbeyan, and the other aged 113 at Yass. The last-mentioned woman was born at Weymouth, England; she was married in Sydney in 1808, the year of her arrival in the Colony.

The next table gives the average age at death of all persons dying in the Colony during the last ten years, together with the average age of those who were over 5 years of age:—

Average Age at Death, Males and Females, from 1880 to 1889.

Year.	Males.		Females.	
	All Ages.	Over 5 years.	All Ages.	Over 5 years.
1880	29·59	48·87	23·36	44·41
1881	30·59	48·88	23·52	44·39
1882	30·05	48·17	23·06	43·94
1883	29·38	47·98	22·88	43·35
1884	28·14	46·50	22·53	42·91
1885	29·12	47·49	22·56	42·78
1886	29·22	47·85	23·79	44·84
1887	29·33	46·95	24·31	44·53
1888	29·44	48·11	23·42	44·01
1889	29·32	48·33	23·07	44·83
Mean of 10 years ...	29·42	47·91	23·25	44·00

DEATH RATE AT VARIOUS AGES.

The table which follows shows the estimated number of the people living at various divisions of age, the actual number of deaths of persons at these ages, and the rate of such deaths per 1,000 living, during each of the last twelve years.

N.S.W.—Death-rate at different Age-groups.

ge-group.		1878.			1879.			1880.	
		Mean No. of Persons living.	Deaths.	Per 1000 living.	Mean No. of Persons living.	Deaths.	Per 1000 living.	Mean No. of Persons living.	Deaths.	Per 1000 living.
years	Males ..	49,977	2,539	50·80	51,657	2,342	45·34	54,146	2,678	49·46
	Females	48,890	2,345	47·96	50,534	2,027	40·11	52,968	2,232	42·14
	Males ..	83,379	344	4·12	87,787	272	3·10	92,274	276	2·99
......	Females	80,108	264	3·30	84,344	239	2·83	88,655	224	2·53
	Males ..	206,892	2,169	10·48	218,165	2,172	9·95	230,061	2,247	9·77
......	Females	159,487	1,306	8·19	167,585	1,244	7·36	175,407	1,432	8·22
and	Males ..	17,729	1,232	69·48	18,666	1,296	69·43	19,620	1,437	73·24
ds ..	Females	11,335	564	49·76	11,935	608	50·95	12,545	705	56·20
otal............		657,797	10,763	16·36	690,673	10,200	14·77	725,676	11,231	15·48
		1881.			1882.			1883.		
years	Males ..	56,642	2,580	45·55	59,122	2,914	49·29	61,680	2,818	45·69
	Females	55,409	2,309	41·49	57,835	2,538	43·88	60,338	2,486	41·20
	Males ..	96,701	226	2·34	101,111	314	3·10	106,252	313	2·95
......	Females	92,908	226	2·43	97,146	259	2·67	102,087	288	2·82
	Males ..	242,204	2,538	10·48	253,396	2,762	10·92	266,135	2,521	9·47
......	Females	182,717	1,536	8·40	190,905	1,675	8·77	200,758	1,611	8·03
s and	Males ..	20,562	1,409	68·52	21,500	1,606	74·69	22,594	1,464	64·79
ds ..	Females	13,147	712	54·16	13,746	748	54·42	14,444	748	51·78
otal............		760,291	11,536	15·17	794,761	12,816	16·12	834,288	12,249	14·68
		1884.			1885.			1886.		
years	Males ..	64,375	3,360	52·19	67,036	3,519	52·49	70,005	3,373	48·18
	Females	62,927	2,868	45·48	65,514	3,093	47·21	68,554	2,921	42·61
	Males ..	112,411	384	3·42	119,098	406	3·41	125,513	329	2·62
......	Females	108,001	343	3·18	114,428	384	3·36	120,591	275	2·28
	Males ..	282,102	3,050	10·85	300,093	3,219	10·73	317,232	3,167	9·98
......	Females	211,846	1,862	8·79	223,246	2,031	9·10	234,294	1,967	8·40
s and	Males ..	23,902	1,531	64·05	25,325	1,756	69·34	26,688	1,632	61·15
ds ..	Females	15,282	822	53·59	16,191	874	53·98	17,063	923	54·09
otal............		880,846	14,220	16·14	930,931	15,282	16·41	979,940	14,587	14·88
		1887.			1888.			1889.		
years	Males ..	73,520	2,982	40·56	76,934	3,353	43·45	79,486	3,482	43·81
	Females	71,834	2,638	36·72	74,740	2,854	38·19	77,014	3,041	39·49
	Males ..	130,840	385	2·94	136,145	358	2·63	141,339	388	2·74
......	Females	125,709	312	2·48	130,807	339	2·59	135,796	307	2·26
	Males ..	330,497	2,909	8·80	344,531	3,039	8·82	357,825	3,050	8·52
......	Females	244,435	1,837	7·51	253,715	1,703	6·71	263,242	1,871	7·11
s and	Males ..	27,820	1,500	53·92	28,949	1,905	65·80	30,053	1,754	58·36
ds ..	Females	17,787	885	49·75	18,508	857	46·30	19,215	903	47·00
otal............		1,022,442	13,448	13·15	1,064,329	14,408	13·54	1,103,970	14,796	13·40

CAUSES OF DEATH.

The system of classifying causes of death proposed by the late Dr. William Farr, F.R.S., in conjunction with Dr. Marc d'Espine, which was in vogue in the United Kingdom and in the colonies for over a quarter of a century, has within the last few years been abandoned in favour of one arranged by Dr. William Ogle, Dr. Farr's successor at the General Register Office, London, upon the basis of a mode of classification determined upon by a joint committee appointed by the Royal College of Physicians, London; and whilst this latter includes a few important deviations from the former, the changes on the whole are in the direction of more extensive exemplification, so that the admirable system of Dr. Farr still forms the groundwork of the new classification.

Deaths from each cause.

The number of deaths from each cause during the year 1889 are here given; those for the metropolis and the country districts being recorded separately. For purposes of comparison the causes of death from 1882 to 1889, arranged in classes according to the new system, will be found in the table immediately following the death-roll for 1889.

Classification of Fatal Diseases in Sydney and Suburbs, and proportion per cent. of Deaths from each cause—1889.

Class.	Causes of Death.	Under 5 Years.		Over 5 Years.		Total.	Proportion per cent.
		Male.	Female.	Male.	Female.		
I.	Specific febrile, or zymotic diseases	422	411	173	195	1,201	18·95
II.	Parasitic diseases	8	6	5	4	23	·36
III.	Dietetic diseases	56	50	40	25	171	2·70
IV.	Constitutional diseases.	102	97	455	321	975	15·38
V.	Developmental diseases	133	107	58	77	375	5·92
VI.	Local diseases	763	634	801	659	2,857	45·08
VII.	Violence	40	22	209	53	324	5·11
VIII.	Ill-defined and not specified causes	204	184	12	12	412	6·50
	All causes	1,728	1,511	1,753	1,346	6,338	100·00

METROPOLIS.

Classification of Diseases—Metropolis.

Class I.—Specific Febrile or Zymotic Diseases.

Order 1. *Miasmatic Diseases.*—Measles, 4; scarlet fever, 24; influenza, 2; hooping-cough, 210; diphtheria, 188; simple and ill-defined fever, 3; yphoid, enteric fever, 209.

Zymotic diseases.

Order 2. *Diarrhœal Diseases.*—Cholera, 45; diarrhœa, 384; dysentery, 36.

Order 3. *Malarial Diseases.*—Remittent fever, 4; ague, 1; beriberi, 1; ava fever, 2.

Order 4. *Zoogenous Diseases.*—Splenic fever, 1.

Order 5. *Venereal Diseases.*—Syphilis, 33; gonorrhœa, stricture of rethra, 2.

Order 6. *Septic Diseases.*—Phagedæna, 1; erysipelas, 13; pyæmia, septicæmia, 21; puerperal fever, 17.

Class II.—Parasitic Diseases.

Thrush, 13; hydatid disease, 9; worms, 1.

Class III.—Dietetic Diseases.

Starvation, want of breast milk, 105; scurvy, 1; intemperance—*(a)* chronic alcoholism, 53; *(b)* delirium tremens, 11; *(c)* opium smoking, 1.

Class IV.—Constitutional Diseases.

Constitutional diseases.

Rheumatic fever, rheumatism of heart, 16; rheumatism, 21; gout, 10; rickets, 2; cancer, 158; tabes mesenterica, 98; tubercular meningitis (hydrocephalus), 73; phthisis, 496; other forms of tuberculosis, scrofula, 56; purpura, hæmorrhagic diathesis, 8; anæmia, chlorosis, leucocythæmia, 17; diabetes mellitus, 19; leprosy, 1.

Class V.—Developmental Diseases.

Premature birth, 181; atelectasis, 15; cyanosis, 21; spina bifida, 5; imperforate anus, 6; cleft palate, harelip, 4; other congenital defects, 10; old age, 133.

Class VI.—Local Diseases.

Local diseases.

Order 1. *Diseases of the Nervous System.*—Inflammation of the brain or its membranes, 99; apoplexy, 133; softening of the brain, 16; hemiplegia, brain paralysis, 57; paralysis agitans, 4; insanity, general paralysis of the insane, 54; chorea, 1; epilepsy, 48; convulsions, 259; laryngismus stridulus, 6; idiopathic tetanus, 7; paraplegia, diseases of the spinal cord, 30; congestion of the brain, 19; brain diseases (undefined), 13.

Order 2. *Diseases of the Organs of Special Sense.*—Otitis, otorrhœa, disease of the ear, 5; epistaxis, disease of the nose, 2.

Order 3. *Diseases of the Circulatory System.*—Endocarditis, valvular disease, 85; pericarditis, 7; hypertrophy of heart, 8; syncope, 26; aneurism, 23; senile gangrene, 6; embolism, thrombosis, 12; phlebitis, 4; heart disease (undefined), 130.

Order 4. *Diseases of the Respiratory System.*—Laryngitis, 16; croup, 86; other diseases of larynx and trachea, 1; asthma, emphysema, 18; bronchitis, 297; pneumonia, 191; congestion of the lungs, 47; pleurisy, 27; lung disease (undefined), 12.

Order 5. *Diseases of the Digestive System.*—Stomatitis, 10; dentition, 146; sore throat, quinsy, 7; dyspepsia, 9; hæmatemesis, 6; melæna, 4; diseases of the stomach, 35; enteritis, 342; ulceration of intestines, 27; ileus, obstruction of intestine, 18; stricture or strangulation of intestine, 5; intussusception, 2; hernia, 9; fistula, 1; peritonitis, 48; ascites, 6; gallstones, 5; cirrhosis of liver, 51; hepatitis, 24; jaundice, 21; other diseases of liver, 35; other diseases of the digestive system, 6.

Order 6. *Diseases of the Lymphatic System and Ductless Glands.*—Diseases of lymphatic system, 3; Addison's disease, 2.

Order 7. *Diseases of the Urinary System.*—Acute nephritis, 32; Bright's disease, 100; uræmia, 22; suppression of urine, 3; calculus, 7; hæmaturia, 1; diseases of bladder and of prostate, 18; kidney disease (undefined), 12.

Order 8. *Diseases of the Organs of Generation.*—Ovarian disease, 6; diseases of uterus and vagina, 9; disorders of menstruation, 1; pelvic abscess, 3.

Order 9. *Diseases of Parturition.*—Abortion, miscarriage, 9; puerperal mania, 1; puerperal convulsions, 11; placenta prævia, flooding, 10; phlegmasia dolens, 1; other accidents of childbirth, 17.

Order 10. *Diseases of the Organs of Locomotion.*—Caries, necrosis, 7; arthritis, ostitis, periostitis, 3; diseases of hip joint, 1.

Order 11. *Diseases of the Integumentary System.*—Carbuncle, 3; phlegmon, cellulitis, 2; eczema, 7.

Class VII.—Violence.

Violent deaths. Order 1. *Accident or Negligence.*—Fractures and contusions, 133; gunshot wounds 5; cuts (tetanus), 3; burns, 17; scalds, 8; sunstroke, 6; poison, 12; drowning, 42; suffocation, 10; otherwise, 11 (chloroform, 2; shock after operation, 2; blood poisoning, 2; umbilical hæmorrhage, 3; bite of dog, 1; and from swallowing a bone stud, 1).

Order 2. *Homicide.*—Murder, 18 (9 being of infants); manslaughter, 3.

Order 3. *Suicide.*—By shooting, 6; by cutting throat, 8; by poison, 11 (in 9 cases the poison was "Rough on Rats"); by drowning, 2; by hanging, 4.

Order 4. *Execution.*—Judicial hanging, 2.

Order 5. *Violent Deaths not classed.*—Found drowned, 21; fractures, 1; burns, 1 (open verdicts).

Class VIII.—Ill-defined and not Specified Causes.

Dropsy, 11; atrophy, debility, inanition, 382; tumour, 4; abscess, 2; hæmorrhage, 2; other ill-defined and not specified causes, 11.

MALES, 3,481; FEMALES, 2,857. TOTAL, 6,338.

Classification of diseases—Country districts.

Classification of Fatal Diseases, and proportions per cent. of Deaths from each cause in the Country Districts of New South Wales—1889.

Class.	Causes of Death.	Under 5 Years.		Over 5 Years.		Total.	Proportion per cent.
		Male.	Female.	Male.	Female.		
I.	Specific febrile, or zymotic diseases........	361	341	360	234	1,296	15·32
II.	Parasitic diseases	19	11	10	5	45	·53
III.	Dietetic diseases.........	16	13	81	8	118	1·40
IV.	Constitutional diseases.	91	101	531	320	1,043	12·33
V.	Developmental diseases	143	103	460	196	902	10·67
VI.	Local diseases.............	806	715	1,397	840	3,758	44·43
VII.	Violence	74	53	552	107	786	9·29
VIII.	Ill-defined and not specified causes	244	193	48	25	510	6·03
	All causes.........	1,754	1,530	3,439	1,735	8,458	100·00

COUNTRY DISTRICTS.

Class I.—Specific Febrile, or Zymotic Diseases.

Zymotic diseases

Order 1. *Miasmatic Diseases.*—Chicken-pox, 1; measles, 9; scarlet fever, 40; relapsing fever, 1; influenza, 14; whooping-cough, 31; mumps, 2; diphtheria, 100; cerebro-spinal fever, 8; simple and ill-defined fever, 19; typhoid, enteric fever, 340.

Order 2. *Diarrhœal Diseases.*—Cholera, 55; diarrhœa, 460; dysentery, 105.

Order 3. *Malarial Diseases.*—Remittent fever, 10; ague, 3; Barrier fever, 2.

Order 4. *Zoogenous Diseases.*—None.

Order 5. *Venereal Diseases.*—Syphilis, 19; gonorrhœa, stricture of urethra, 14.

Order 6. *Septic Diseases.*—Phagedæna, 1; erysipelas, 22; pyæmia, septicæmia, 19; puerperal fever, 21.

Class II.—Parasitic Diseases.

Thrush, 30; hydatid disease, 15.

Class III.—Dietetic Diseases.

Privation, 9; want of breast milk, 26; scurvy, 4; intemperance—*(a)* chronic alcoholism, 58; *(b)* delirium tremens, 18; *(c)* opium-smoking, 3.

Class IV.—Constitutional Diseases.

Constitutional diseases.

Rheumatic fever, rheumatism of heart, 24; rheumatism, 18; gout, 5; cancer, 235; tabes mesenterica, 110; tubercular meningitis (hydrocephalus), 51; phthisis, 529; other forms of tuberculosis, scrofula, 41; purpura, hæmorrhagic diathesis, 4; anæmia, chlorosis, leucocythæmia, 13; diabetes mellitus, 13.

Class V.—Developmental Diseases.

Premature birth, 180; atelectasis, 18; cyanosis, 18; spina bifida, 4; imperforate anus, 5; cleft palate, harelip, 4; other congenital defects, 18; old age, 655.

Class VI.—Local Diseases.

Local diseases.

Order 1. *Diseases of the Nervous System.*—Inflammation of the brain or its membranes, 87; apoplexy, 144; softening of the brain, 22; hemiplegia, brain paralysis, 102; paralysis agitans, 7; insanity, general paralysis of the insane, 49; chorea, 1; epilepsy, 58; convulsions, 388; laryngismus stridulus, 5; idiopathic tetanus, 3; paraplegia, diseases of the spinal cord, 27; congestion of the brain, 22; brain disease (undefined), 10.

Order 2. *Diseases of the Organs of Special Sense.*—Otitis, otorrhœa, disease of the ear, 4; epistaxis, disease of the nose, 6; ophthalmia, disease of the eye, 2.

Order 3. *Diseases of the Circulatory System.*—Endocarditis, valvular disease, 116; pericarditis, 13; hypertrophy of heart, 4; angina pectoris, 7; syncope, 36; aneurism, 39; senile gangrene, 12; embolism, thrombosis, 6; phlebitis, 2; varicose veins, 1; heart disease (undefined), 275.

)rder 4. *Diseases of the Respiratory System.*—Laryngitis, 30; croup, 120; ıer diseases of larynx and trachea, 3; asthma, emphysema, 45; bron- ıtis, 395; pneumonia, 354; congestion of the lungs, 64; pleurisy, 43; ıg disease (undefined), 25.

Order 5. *Diseases of the Digestive System.*—Stomatitis, 9; dentition, 144; re throat, quinsy, 5; dyspepsia, 28; hæmatemesis, 5; melæna, 5; eases of the stomach, 42; enteritis, 250; ulceration of intestines, 11; us, obstruction of intestine, 57; stricture, or strangulation of intestine, intussusception, 4; hernia, 18; peritonitis, 93; ascites, 10; gallstones, ; cirrhosis of liver, 52; hepatitis, 33; jaundice, 25; other diseases of er, 41; other diseases of digestive system, 4.

)rder 6. *Diseases of the Lymphatic System and Ductless Glands.*—Dis- es of lymphatic system, 3; bronchocele, 9.

)rder 7. *Diseases of the Urinary System.*—Acute nephritis, 32; Bright's ease, 93; uræmia, 20; suppression of urine, 4; calculus, 6; hæmaturia, disease of bladder and of prostate, 38; kidney disease (undefined), 19.

)rder 8. *Diseases of the Organs of Generation.*—Ovarian disease, 4; eases of uterus and vagina, 12; disorders of menstruation, 6; pelvic scess, 2; perineal abscess, 1; diseases of testes, penis, scrotum, &c., 5.

Order 9. *Diseases of Parturition.*—Abortion, miscarriage, 13; puerperal nia, 2; puerperal convulsions, 13; placenta prævia, flooding, 25; phleg- sia dolens, 1; other accidents of childbirth, 31.

Order 10. *Diseases of the Organs of Locomotion.*—Caries, necrosis, 9; hritis, ostitis, periostitis, 3; curvature of spine, 1; disease of hip joint, 3.

Order 11. *Diseases of the Integumentary System.*—Carbuncle, 5; phleg- n, cellulitis, 3; lupus, 2; ulcer, bed sores, 3; eczema, 9; prurigo, 1; oriasis, 1.

Class VII.—Violence.

Violent deaths.

Order 1. *Accident or Negligence.*—Fractures and contusions, 284; gun- ot wounds, 10; cuts, 10; burns, 53; scalds, 23; sunstroke, 23; light- ıg, 7; poison, 12; bite of snake, 4; drowning, 162; suffocation, 44 being in mines); otherwise, 26 (chloroform, 1; amputation, 3; blood isoning, 10; umbilical hæmorrhage, 5; injuries at birth, 4; shock, 2; n by a pig, 1).

Order 2. *Homicide.*—Murder, 12 (7 being of infants); manslaughter, 4.

Order 3. *Suicide.*—By shooting, 19; by cutting throat, 16; by poison, 18 (in 5 cases the poison was "Rough on Rats"); by drowning, 11; by hanging, 14; by inhaling fumes of irritant poison, 1; by explosion of dynamite, 1; by voluntary starvation, 1.

Order 4. *Execution.*—Judicial hanging, 1.

Order 5. *Violent Deaths not classed.*—Found drowned, 30.

Class VIII.—Ill-defined and not Specified Causes.

Dropsy, 30; atrophy, debility, inanition, 429; mortification, 1; tumour, 7; abscess, 3; other ill-defined and not specified causes, 40.

MALES, 5,193; FEMALES, 3,265. TOTAL, 8,458.

Fatality of phthisis.

From the foregoing it will be seen that the number of deaths from phthisis in the Colony during 1889 was greater than from any other disease. The following are the principal causes of death arranged in order of fatality:—

	Number of deaths.
Phthisis	1,025
Accidents	905
Diarrhœa	844
Atrophy, debility (infants)	811
Old age	788
Bronchitis	692
Convulsions	647
Enteritis	592
Typhoid, enteric fever	549
Heart disease (exclusive of endocarditis, pericarditis, and aneurism)	529
Cancer	393
Premature birth	361
Liver diseases	298
Diphtheria	288
Apoplexy	277
Whooping-cough	241
Endocarditis and pericarditis	221
Diseases of the urinary system (exclusive of Bright's disease)	215
Tabes mesenterica	208
Croup	206
Bright's disease	193
Inflammation of the brain	186
Childbirth and puerperal fever	172
Paralysis	170
Intemperance	144
Dysentery	141
Peritonitis	141
Want of breast milk	131
Tubercular meningitis (hydrocephalus)	124
Suicides	112
Congestion of the lungs	111
Epilepsy	106
Insanity	103
Cholera	100
Tuberculosis, scrofula, &c.	97
Ileus, obstruction of the intestines	75
Pleurisy	70
Scarlet fever	64
Asthma	63
Aneurism	62
Diseases of spinal cord	57
Syphilis	52
Found drowned	51
Laryngitis	46
Thrush	43
Congestion of the brain	41
Dropsy	41
Rheumatic fever and rheumatism of heart	40
Pyæmia septicæmia	40
Rheumatism	39
Softening of the brain	38
Ulceration of the intestines	38
Lung disease (undefined)	37
Murder and manslaughter	37
Erysipelas	35
Diabetes mellitus	32
Anæmia chlorosis, leucocythæmia	30

Percentage of Deaths to total Deaths, and Rate of Mortality per Thousand persons living in New South Wales from the several Classes of Diseases.

Causes of Death.	1882.			1883.			1884.			1885.		
	Deaths.	Percentage.	Per 1,000 living.	Deaths.	Percentage.	Per 1,000 living.	Deaths.	Percentage.	Per 1,000 living.	Deaths.	Percentage.	Per 1,000 living.
Specific febrile, or zymotic diseases	2,081	16·24	2·62	1,815	14·82	2·17	2,359	16·59	2·68	2,382	15·59	2·56
Parasitic diseases	54	·42	·07	51	·42	·06	66	·47	·08	89	·58	·09
Dietetic diseases	265	2·07	·33	172	1·40	·20	198	1·39	·22	211	1·38	·23
Constitutional diseases	1,442	11·25	1·81	1,517	12·38	1·82	1,639	11·53	1·86	1,837	12·02	1·97
Developmental diseases	1,220	9·52	1·53	1.232	10·06	1·48	1,270	8·93	1·44	1,326	8·68	1·42
Local diseases	5,761	44·95	7·25	5,495	44·86	6·59	6,343	44·60	7·20	6,951	45·48	7·47
Violence	904	7·05	1·14	850	6·94	1·02	990	6·96	1·12	1,106	7·24	1·19
Ill-defined and not specified causes	1,089	8·50	1·37	1,117	9·12	1·34	1,355	9·53	1·54	1,380	9·03	1·48
	12,816	100·00	16·12	12,249	100·00	14·68	14,220	100·00	16·14	15,282	100·00	16·41

Causes of Death.	1886.			1887.			1888.			1889.		
	Deaths.	Percentage.	Per 1,000 living.	Deaths.	Percentage.	Per 1,000 living.	Deaths.	Percentage.	Per 1,000 living.	Deaths.	Percentage.	Per 1,000 living.
Specific febrile, or zymotic diseases	2,315	15·87	2·36	1,978	14·71	1·93	2,143	14·87	2·02	2,497	16·88	2·26
Parasitic diseases	82	·56	·08	61	·45	·06	53	·37	·05	68	·46	·06
Dietetic diseases	198	1·36	·20	179	1·33	·18	183	1·27	·17	289	1·95	·26
Constitutional diseases	1,980	13·57	2·02	1,896	14·10	1·85	2,111	14·65	1·98	2,018	13·64	1·83
Developmental diseases	1,285	8·81	1·31	1,128	8·39	1·10	1,195	8·30	1·12	1,277	8·63	1·16
Local diseases	6,482	44·44	6·61	6,110	45·43	5·98	6,543	45·41	6·15	6,615	44·71	5·99
Violence	1,083	7·42	1·11	1,148	8·54	1·12	1,140	7·91	1·07	1,110	7·50	1·01
Ill-defined and not specified causes	1,162	7·97	1·19	948	7·05	·93	1,040	7·22	·98	922	6·23	83
	14,587	100·00	14·88	13,448	100·00	13·15	14,408	100·00	13·54	14,796	100·00	13·40

ACCIDENTS.

Accidental deaths.

Accidental deaths are very numerous, especially in the country. The number registered during 1889 was 905, or 247 in the Metropolis and 658 in the country districts. The numbers for 1888 were 272 and 628 respectively. An increase is therefore apparent in the country districts, and a corresponding decrease in the Metropolis. The number of accidents in the Colony during each of the last three years has been about 900.

Accidents, 1883–89.

	1883.	1884.	1885.	1886.	1887.	1888.	1889.
Sydney and Suburbs...	177	208	281	225	211	272	247
Country	586	664	676	637	692	628	658
	763	872	957	862	903	900	905

In the following table a more detailed account will be found of the various accidents during the last ten years:—

Accidents, 1880–89.

	Fractures, Contusions.	Gunshot Wounds.	Cuts, &c.	Burns, Scalds.	Sunstroke.	Lightning.	Poison.	Bite of Snake or Insect.	Drowning.	Suffocation.	Otherwise.	All cases.		
												M.	F.	Total.
1880	326	27	13	84	26	*	23	8	206	42	17	607	165	772
1881	394	10	8	92	30	*	32	5	159	35	7	606	166	772
1882	351	23	15	96	36	*	38	...	216	29	6	660	150	810
1883	310	25	14	85	21	*	44	4	213	35	12	594	169	763
1884	403	24	19	95	41	*	42	8	203	29	8	685	187	872
1885	448	13	23	121	34	*	41	3	222	42	10	755	202	957
1886	357	23	14	114	37	3	12	5	210	60	27	670	192	862
1887	352	11	18	93	24	2	16	3	228	129	27	727	176	903
1888	396	28	22	133	37	5	15	5	176	42	41	713	187	900
1889	417	15	13	101	29	7	24	4	204	54	37	713	192	905
Total ...	3,754	199	159	1,014	315	17	287	45	2,037	497	192	6,730	1,786	8,516

* Included with "Sunstroke" during these years.

The average annual rate of accidents during the ten years 1880 to 1889 has been 94 per 100,000 of the population. This, although much lower than in Queensland, is higher than in the other colonies, or in any country whose records are available for comparison, as will be seen from the following statement :—

Accidents per 100,000 of population, per annum.

New South Wales	94	Italy	18
Victoria	82	Germany	42
Queensland	137	Prussia	41
South Australia	65	Austria	31
Tasmania	74	Hungary	34
New Zealand	83	Belgium	37
England and Wales	56	Denmark	23
Scotland	62	Norway	56
Ireland	37	Sweden	48
France	34	Russia	20
Spain	21	United States	62
Switzerland	64		

SUICIDES.

Number and modes of suicides.

The number of suicides registered during the ten years 1880-89, and the various modes adopted by the suicides for taking life, are :—

Year.	Shooting.		Cut, Stab, &c.		Poison.		Drowning.		Hanging.		Other Modes.		All cases.		
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	Total
1880	11	...	9	3	15	4	3	3	12	5	3	...	53	15	68
1881	16	...	10	1	8	2	8	2	22	2	11	1	75	8	83
1882	6	...	10	...	8	5	5	4	11	2	4	...	44	11	55
1883	12	...	10	...	5	1	2	...	14	1	8	1	51	3	54
1884	17	...	12	1	9	6	8	3	14	4	6	1	66	15	81
1885	19	1	18	...	13	5	1	3	26	5	4	...	81	14	95
1886	24	1	12	...	14	6	3	3	23	3	6	...	82	13	95
1887	22	...	14	1	17	11	14	7	26	4	4	1	97	24	121
1888	29	...	18	5	26	19	7	4	16	1	6	1	102	30	132
1889	25	...	20	4	18	11	8	5	15	3	3	...	89	23	112
Total	181	2	133	15	133	70	59	34	179	30	55	5	740	156	896

Suicide by hanging claims the largest number of male victims for the ten years ended 1889, viz., 179 ; but death by poisoning was most favoured by women. Of the twenty-nine suicides by poison last year, it is stated in fourteen cases that the poison taken was "Rough on Rats." Eighteen suicides selected this poison in 1888. One of the suicides in 1889 was a boy, aged 13, who hanged himself.

Proportion of suicides to total deaths.

Number of Suicides and Proportion to Total Deaths.

Year.	Suicides by males.		Suicides by females.		Total Suicides.	
	No.	Per thousand of total deaths of males.	No.	Per thousand of total deaths of females.	No.	Per thousand deaths.
1880	53	7·98	15	3·26	68	6·05
1881	75	11·11	8	1·67	83	7·19
1882	44	5·79	11	2·11	55	4·29
1883	51	7·17	3	·58	54	4·41
1884	66	7·93	15	2·54	81	5·70
1885	81	9·10	14	2·19	95	6·22
1886	82	9·64	13	2·13	95	6·51
1887	97	12·47	24	4·23	121	9·00
1888	102	12·07	30	5·04	132	9·16
1889	89	10·24	23	3·74	112	7·55

Proportion to population.

In proportion to the whole population the yearly number of suicides is very light, and bears favourable comparison with the other colonies of the group. For the sake of clearness the rates in the following table are for every 100,000 of the population:—

Year.	Number of suicides.	Per 100,000 of mean population.
1880	68	9·4
1881	83	10·9
1882	55	6·9
1883	54	6·5
1884	81	9·2
1885	95	10·2
1886	95	9·7
1887	121	11·8
1888	132	12·4
1889	112	10·1
	Mean............	9·8

Suicides in New South Wales compared with other colonies.

The mean rate of the whole of Australasia was 10·2, which is slightly higher than in New South Wales; in respect to suicide, however, all the colonies, Tasmania alone excepted, compare somewhat unfavourably with Great Britain; deaths by suicide averaging 7·7 per 100,000 of population in England and Wales, and 5·6 in Scotland.

Deaths from Suicide in the Australasian Colonies.

Colony.	Per 100,000 of mean population.
Tasmania	4·7
New Zealand	9·1
South Australia	9·5
New South Wales	9·8
Victoria	11·2
Western Australia	11·6
Queensland	14·1

The above are the mean annual rates from 1880 for each colony, with the exception of Western Australia, for which the rate given is the mean of 1886–89.

EXPECTATION OF LIFE.

Meaning of term.

The number of deaths at the various ages taken in connection with the numbers of persons living at each period of life, as disclosed by the census, forms the basis of a calculation which gives most interesting information, namely, the length of time that people of any age may expect to live. Not that the exact age to which any given individual will attain can be ascertained; but, by taking a number of persons at a given age, the *average* duration of life beyond that age may be estimated; and it is as certain that some will out-live the period of life set down in the table as it is that some will not survive to reach it. The idea has been very clearly expressed by Babbage, who wrote:—"Nothing is more uncertain than the duration of life when the maxim is applied to the individual, but there are few things less subject to fluctuation than the duration of life in a multitude of individuals." It is on this principle that annuities and life assurances can be made the subject of definite and exact calculations, the final results being found to vary within very narrow limits. The duration of life is a problem upon which vital statistics throw considerable light.

Theory of expectation of life.

The table here presented is calculated for the three colonies of New South Wales, Victoria, and Queensland taken together, from statistics for the years 1870-81; but before drawing a comparison between the estimates therein contained and the results that have been obtained in other countries, it may be well to explain that the application of the theory of computing the average duration of human life after any given age is founded on two assumptions. "Of these the first is that the experience of the future will accord with that of the past; that is to say, that what ratio soever may have been found to exist in times past between the number surviving and the number dying in a given time, out of a specified number of individuals observed upon, the same ratio will be found to subsist in time to come between the number living and the number dying in the same space of time out of any given number of individuals similarly circumstanced with the others. And the second assumption is, that the individuals, the possibility of whose living and dying in any specified time may be in question, have all the same prospect of longevity with each other."* The phrase "expectation of life" has been taken exception to by some writers, on the ground that it is misleading to the uninitiated. The idea intended to be conveyed is the mean time which a number of persons at any age will live after that age. The late Dr. Farr, F.R.S., favoured the term "after-lifetime" as being a more correct expression, and in his report wrote as follows:—"The after-lifetime of men at the age of 30 is 33 years, by the English Life Table; 33 years is not the precise time probably that any one of that age will live, but the average time that a number of men of that age will live taken one with another. Age + after-lifetime = lifetime. At age 30 this is 30 + 33 = 63, the average age which men now aged 30 will attain. At birth this is 0 + 40 = 40; when lifetime and after-lifetime are the same thing. The lifetime simply, without the addition at a given age, will serve to express in one word what is often improperly called the "expectation of life at birth."

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* Tables of Life Contingencies. Peter Gray, F.R.A.S., &c., pp. 36 and 37.

Experience of A.M.P. Society

In addition to the expectation of life in the three colonies above-entioned will be found a column showing the H.M. (healthy ale) table of the Australian Mutual Provident Society. And hile the after-lifetime at each age from 10 to 50 in the latter is gher than in the former, the gradation is much the same in each lculation. That one should give an estimate of greater longevity, ter different ages, than the other is but natural, for in computing e table for the different colonies the total numbers of persons ving and dying at each period of life are taken into consideration, hereas in the case of the H.M. table only selected lives, or such s would be accepted by an insurance society, form the basis of omputation. Looking at the two tables, therefore, in their true ght, the one is more an index of the correctness of the other than f the figures in both were identical. Dr. Farr calls the Life able a *biometer*, and speaks of it as of equal importance, in all nquiries connected with human life or sanitary improvements, ith the barometer or thermometer and similar instruments mployed in physical research; and as being also the key-tone or pivot on which the whole science of life assurance hinges. For even supposing that an insurance society had mpirically arrived at an equitable rate of premium for assuring lives, the Mortality or Life Table is still required in order to ascertain the value of such premiums for a prospective term of years, as against the value of the sums assured thereby, so that a statement of assets and liabilities may be periodically prepared. Without such knowledge a division of "profits" would be impossible. In fact the Life Table is absolutely essential for the "solution of all questions depending on the duration of human life."

Length of life in other countries.

By way of comparison several additional columns are here given. hey are reprinted from Mulhall's Dictionary of Statistics, and how the expectation of life in England, and in various other ountries

Expectation of Life at Various Ages.

Age.	*New South Wales, Victoria, and Queensland.		H.M. A.M.P. Soc.	England.		Holland.		Belgium.		Sweden.		Saxony.	United States	Age.
	M.	F.		M.	F.	M.	F.	M.	F.	M.	F.			
Birth	46·5	49·6	...	41·9	45·2	31·4	36·4	...	...	41·3	45·6	....	....	Birth.
5 years	53·0	55·4	...	51·5	53·6	48·7	49·2	...	...	49·4	53·0	....	....	5
10 ,, ...	49·2	51·7	50·3	48·2	50·3	45·9	46·5	43·8	44·8	46·5	50·0	47·0	48·7	10
15 ,, ...	44·9	47·4	46·2	43·9	46·2	...	...	...	...	...	...	....	....	15
20 ,, ...	40·8	43·3	42·1	39·9	42·1	38·3	39·2	36·4	37·7	38·6	42·1	39·3	42·2	20
25 ,, ...	37·0	39·4	38·4	36·1	38·4	...	...	...	...	...	...	....	....	25
30 ,, ...	33·3	35·7	34·7	33·2	34·1	31·8	32·4	30·5	31·9	31·2	34·5	32·1	35·3	30
35 ,, ...	29·7	32·3	31·0	28·9	31·1	...	...	...	...	...	...	....	....	35
40 ,, ...	26·2	28·9	27·4	26·5	27·5	25·0	26·4	24·8	26·1	24·3	27·2	25·0	28·2	40
45 ,, ...	22·9	25·6	23·8	22·3	24·2	...	...	...	...	...	...	....	....	45
50 ,, ...	19·8	22·3	20·3	19·9	20·8	18·5	19·7	18·9	20·3	18·0	20·1	18·0	20·9	50
55 ,, ...	16·7	18·8	17·0	16·1	17·4	...	...	...	...	...	...	....	....	55
60 ,, ...	13·8	15·5	13·8	13·6	14·5	12·8	13·3	12·4	13·9	12·3	13·5	11·7	14·1	60
65 ,, ...	11·2	12·5	11·0	10·8	11·5	...	...	...	...	...	...	....	....	65
70 ,, ...	8·9	9·7	8·5	8·6	9·1	7·9	8·1	8·1	8·3	7·4	8·0	6·9	8·5	70
75 ,, ...	6·9	7·2	6·4	6·5	7·0	...	...	...	...	...	...	....	....	75
80 ,, ...	5·4	5·7	4·7	5·2	5·6	4·4	4·5	5·2	5·4	3·9	4·3	3·9	4·4	80
85 ,, ...	4·0	4·2	3·5	3·8	4·1	...	...	...	...	...	...	....	....	85
90 ,, ...	3·0	3·2	2·4	2·8	3·1	2·4	2·7	2·9	3·1	2·4	2·8	....	....	90

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* *Vide* A. F. Burridge in Journal of Institute of Actuaries, vol. xxiv.

From this table it will be seen that the colonies stand very well when compared with other quarters of the globe. The average expectation of life of males and females at infancy, youth, and after the age of 50 years is higher than in any of the countries given.

VACCINATION.

Vaccination returns.

Vaccination is not compulsory in New South Wales, and is resorted to only in times of scare, when an epidemic of small-pox is thought imminent. It is easy to discover, from the returns of the Government vaccinators, the years when the community was threatened by the disease, as at such times the number of persons submitting themselves to vaccination largely increased. The number returned does not include those treated by private medical officers, by whom a large number of persons are vaccinated.

Persons Vaccinated by Government Medical Officers.

Year.	Sydney and Suburbs.	Country.	Total.	Year.	Sydney and Suburbs.	Country.	Total.
1876	1,269	3,276	4,545	1883	296	600	896
1877	5,308	11,943	17,251	1884	630	6,569	7,199
1878	532	3,038	3,570	1885	245	1,876	2,121
1879	657	4,981	5,638	1886	452	1,191	1,643
1880	460	4,699	5,159	1887	1.059	2,199	3,258
1881	8,738	51,481	60,219	1888	1,091	1,004	2,095
1882	380	1,869	2,249	1889	642	1,610	2,252

Age of persons vaccinated.

The number and ages of persons vaccinated by the Government vaccinators during 1889 will be found below:—

District.	Under 1 year.	From 1 to 5 years.	From 5 to 10 years.	10 years and upwards.	Total.
Sydney and suburbs	179	212	189	62	642
Country districts	164	617	697	132	1,610
Total	343	829	886	194	2,252

INSANITY.

The number of insane persons under treatment in hospitals is almost a fixed proportion of the total population, viz., 2·71 per thousand. Since 1871 the proportion has varied only 0·14 above and 0·06 per thousand below, the average stated. The hospitals for insane, under the immediate control of the Government, are five in number; four for ordinary insane, and one, at Parramatta, for criminals. Besides these there is one licensed house.

Number of Insane under treatment.

The number of insane persons under treatment on the 31st December, 1889, under official cognizance, was 2,973, distributed as follows:—

Name of Hospital.	No. on Register.		
	Males.	Females.	Total.
Gladesville	500	295	795
Parramatta, free.....	673	329	1,002
Do. criminal..................	42	9	51
Callan Park........	453	319	772
Newcastle	133	112	245
Cook's River	21	87	108
Total	1,822	1,151	2,973

These figures are 76 in excess of the total for 1888.

Proportion of insane a constant quantity.

The proportion of insane to the whole population, as already pointed out, is almost a constant quantity, as will be seen from the accompanying table, giving the number of persons in hospitals for insane at the close of each year from 1871 to 1889:—

Year ended 31 December	No. of Insane.	Proportion of Insane to population per 1,000.	Year ended 31 December.	No. of Insane.	Proportion of Insane to population per 1,000.
1871	1,387	2·67	1882	2,307	2·84
1872	1,440	2·69	1883	2,403	2·80
1873	1,526	2·75	1884	2,524	2·79
1874	1,588	2·76	1885	2,643	2·76
1875	1,697	2·85	1886	2,717	2·71
1876	1,743	2·83	1887	2,821	2·70
1877	1,829	2·84	1888	2,897	2·67
1878	1,916	2·85	1889	2,973	2·65
1879	2,011	2·83			
1880	2,099	2·83		Mean...	2·71
1881	2,218	2·84			

Amount of insanity in England.

e amount of insanity in New South Wales and in England, ared with their respective populations, is about the same, ;h there appears to be a tendency in the latter country for the o increase. The greatest proportion of lunacy in these colonies nd in Victoria, and the lowest in Tasmania, South Australia, Queensland.

sanity in the United Kingdom and Australasian Colonies.

Country.	Insane persons per 1,000 of population.	Country.	Insane persons per 1,000 of population.
nd	2·88	Queensland	2·44
nd	2·91	South Australia	2·47
d	3·16	Western Australia	2·75
South Wales	2·65	Tasmania	2·03
ia	3·25	New Zealand	2·66

Death-rate of the Insane.

e percentage of deaths of insane persons is comparatively The following table has been computed on the basis of the ge number of patients resident in hospitals for insane :—

	Percentage of deaths of average number resident.			Year.	Percentage of deaths of average number resident.		
	Male.	Female.	Total.		Male.	Female.	Total.
	7·76	5·85	7·03	1883	9·71	4·98	6·64
	8·90	4·25	7·19	1884	8·18	6·22	7·43
	8·57	5·23	7·32	1885	7·61	4·97	6·59
	7·63	4·28	6·85	1886	7·54	6·37	7·08
	7·75	5·93	7·04	1887	6·64	7·03	6·79
1	6·52	4·21	5·63	1888	7·59	6·32	7·11
2	6·76	5·61	6·32	1889	7·73	6·44	7·24
				Mean ...	7·77	5·55	6·87

Increase of admissions in seasons of depression.

The number of persons admitted to the hospitals has varied a great deal. The effect of the continued commercial depression during the years 1885 and 1886 was experienced in the unusual number of idiotic and imbecile children, as well as demented people, found amongst the admissions, whose relatives would willingly have maintained them in more prosperous times.

Admissions to Hospitals for Insane and Proportion to Mean Population.

Year.	Admissions.	Proportion to population per 1,000.	Year.	Admissions.	Proportion to population per 1,000.
1871	340	0·66	1881	494	0·64
1872	303	0·57	1882	473	0·59
1873	342	0·62	1883	476	0·57
1874	330	0·58	1884	493	0·55
1875	356	0·60	1885	567	0·60
1876	360	0·59	1886	567	0·58
1877	457	0·72	1887	532	0·52
1878	424	0·64	1888	587	0·55
1879	440	0·63	1889	550	0·50
1880	476	0·65			
				Mean	0·59

Influx of Insane from abroad.

There is no law in force in this Colony to prevent the influx of insane persons; and, as a consequence, the splendid hospitals, which the bounty of the Government has established for the treatment of the insane, have been the means of burdening the community with the care of unfortunate persons belonging to other countries, where the treatment meted out to the insane is less generous or less scientific than in New South Wales. Were it not for this influx of insane from outside its boundaries the rate for this Colony would be much lower than it is at present.

Birth-places of Patients in Hospitals for Insane, 1889.

Country	No. of Patients.	Percentage to total.	Country.	No. of Patients.	Percentage to total.
New South Wales	1,034	29·58	France	21	0·60
Other British Colonies	118	3·38	Germany	81	2·32
			China	77	2·20
England	859	24·57	Other Countries and not ascertained	185	5·29
Ireland	944	27·00			
Scotland...........	177	5·06			

In this and the two following tables all the patients received into the hospitals for insane during the whole of the year are enumerated; the number remaining under control on the 31st December is given in a previous table.

Small proportion of Insane born in the Colony.

The number of persons under restraint, who are natives of this Colony, is only 29·58 per cent. of the total, whilst the native-born element of the total population is at least 64 per cent. Of the British-born patients, England contributes very nearly twice the number that her population in this country would warrant, and Ireland at least thrice the number.

Ages of Insane.

The ages of the insane are set forth in the following table, which shows that nearly one-half of the whole number (47 per cent.) are between 30 and 50 years of age. The table deals only with patients in hospitals for insane, and gives the percentage for 1889 at each period of life.

Ages of Insane.	No. of Patients.	Percentage of all ages.	Percentage to total population at respective ages, Census 1881.
Under 5 years	4	·11	14·84
5 to 10	28	·80	13·22
10 ,, 15	48	1·37	11·81
15 ,, 20	94	2·69	10·11
20 ,, 30	513	14·67	18·03
30 ,, 40	819	23·43	12·95
40 ,, 50	834	23·86	9·46
50 ,, 60	626	17·91	5·27
60 ,, 70	352	10·07	2·96
70 ,, 80	147	4·20	1·09
80 years and upwards	31	·89	0·26

Juvenile lunatics are as a rule sent to the Hospital for the Insane at Newcastle, an asylum which is set apart for imbecile and idiotic patients, so that of the 80 mentioned in the foregoing table as being under 15 years of age, 77 were in that institution.

The major portion of the persons under restraint are single; amongst the married, females largely predominate, as also amongst

Condition as regards marriage.

the widowed. The condition as to marriage of patients in hospitals for the insane during 1889 is shown hereunder :—

Condition as to Marriage.	Male.	Female	Total.
Single	1,378	521	1,899
Married	454	594	1,048
Widowed	97	143	240
Unascertained	219	91	310

Intemperance as a cause of insanity.

It is popularly supposed that the principal cause of insanity is intemperance. The experience of this Colony, however, does not bear out this opinion. The amount of insanity directly due to drink, though certainly large, is not so considerable as that due to other causes. As far as the records of the hospitals show, the percentage of persons admitted suffering from insanity traceable to intemperance, is not more than 11·57 per cent. of the total admissions.

Persons insane from drink soon recover.

Persons suffering from mania induced by excess of drink recover comparatively quickly, and at any one time their number in the hospitals for the insane is scarcely more than 5·5 per cent. The most potent cause of insanity appears to be hereditary influence. How far this is productive of insanity cannot, however, be exactly determined; for although the Inspector-General of the Insane, a high authority on lunacy, has ascertained that hereditary influence and congenital defect can be credited with only 8·86 per cent. of the total insanity, this percentage gives no idea of the actual amount of hereditary insanity in the Colony. Of the large number of patients the causes of whose insanity is unknown, it is believed that in most instances the insanity is due to hereditary influence, and even in those cases where the primary cause of insanity has been ascertained, there is strong presumption that many of the patients have inherited an insane neurosis.

Insane neurosis.

In the following table will be found the per-centages of the various causes of insanity. The calculations are made on the apparent or assigned causes in the cases of all patients admitted into the asylums for the insane :—

Causation of Insanity.

Cause of Insanity.	Percentage of male insanity.	Percentage of female insanity.	Percentage of total insanity.	
Moral :—				
Domestic trouble (including loss of relatives and friends)	1·12	5·09	2·65	12·43
Adverse circumstances (including business anxiety and pecuniary difficulties)	3·46	1·93	2·87	
Mental anxiety and "worry" (not included under above two heads), and overwork	1·82	3·16	2·34	
Religious excitement	1·30	3·16	2·02	
Love affairs (including seduction)........................	0·52	1·79	1·01	
Fright and nervous attack	0·26	0·96	0·53	
Isolation	1·21	0·14	0·80	
Nostalgia...........................	0·17	0·27	0·21	
Physical :—				
Intemperance in drink	14·69	6·60	11·57	58·12
Do (sexual)	0·86	0·69	0·80	
Venereal disease	1·04	..	0·64	
Self-abuse	1·99	0·14	1·27	
Sunstroke	3·46	0·27	2·23	
Accident or injury	3·54	1·24	2·65	
Pregnancy	...	0·83	0·32	
Parturition and the puerperal state..............................	...	8·94	3·45	
Lactation............................	...	2·06	0·80	
Uterine and ovarian disorders...	...	1·51	0·58	
Puberty	0·34	0·69	0·48	
Change of life	...	2·34	0·90	
Fevers	0·09	0·69	0·32	
Privation and overwork	0·95	0·41	0·74	
Phthisis	0·34	0·14	0·27	
Epilepsy	5·27	4·68	5·04	
Disease of skull and brain	2·51	1·10	1·96	
Exophthalmic bronchocele	...	0·14	0·05	
Old age	5·01	3·85	4·56	
Other bodily diseases and disorders	1·73	4·26	2·71	
Excess of opium	0·34	0·27	0·32	
Excess of cocaine	0·09	...	0·05	
Previous attacks	8·47	8·25	8·39	
Hereditary influence ascertained..	3·98	7·57	5·36	
Congenital defect ascertained......	3·46	3·58	3·50	
Other ascertained causes	0·26	...	0·16	
Unknown	31·72	23·25	28·45	28·45

Deaths of insane.

During the year 1889 the deaths of persons afflicted with lunacy numbered 216, viz., 142 males and 74 females. The following are the causes of death, and the number who died from each disease :—

	Males.	Females.	Total
ZYMOTIC DISEASES—			
Typhoid fever ...	1	...	1
Diarrhœa ...	2	2	4
CONSTITUTIONAL DISEASES—			
Cancer ...	...	1	1
Phthisis ...	6	6	12
DEVELOPMENTAL DISEASES—			
Old age ...	16	11	27
LOCAL DISEASES—			
Pachymeningitis ...	2	...	2
Apoplexy ...	5	3	8
Softening of the brain...	1	...	1
Insanity, general paralysis of the insane ...	70	33	103
Epilepsy...	13	8	21
Embolism of the brain ...	1	...	1
Valvular disease of the heart...	4	1	5
Angina pectoris ...	1	...	1
Heart disease (undefined) ...	2	2	4
Pneumonia ...	9	3	12
Pleurisy ...	1	...	1
Gangrene of lungs ...	...	1	1
Peritonitis ...	2	...	2
Cirrhosis of the liver ...	1	...	1
Fatty disease of liver...	1	...	1
Intestinal nephritis ...	...	1	1
Kidney disease ...	1	...	1
Puerperal mania ...	...	1	1
Perineal abscess ...	1	...	1
VIOLENCE—			
Chloroform, operation ...	1	...	1
Suicide ...	1	1	2
	142	74	216

Lunacy not incompatible with longevity.

Of the above total 19 males and 12 females were over 70 years of age, so that the malady of lunacy is not incompatible with longevity. Two males attained the ages of 90 and 91 years respectively, and four of the females were over 80.

The average weekly cost of maintaining insane patients in the hospitals is about 12s. 4d. per week, of which the State pays 11s. 1d., the balance being made up by contributions from the estates of the patients themselves, or by their friends. The sub-

Cost of patients.

ined table shows the average weekly cost per head, and average ·ivate contributions from 1879 to 1889 :—

Average Weekly Cost of Patients in Hospitals for the Insane.

Year.	Cost per head to State.	Contribution per head from private sources.	Total weekly cost per head.
	s. d.	s. d.	s. d.
1879	12 1	0 7¼	12 8¼
1880	10 8¾	1 0¼	11 9
1881	10 8¼	1 2¼	11 10½
1882	12 0¼	1 2¼	13 2½
1883	11 5¾	1 0¼	12 6
1884	11 0	1 3¼	12 3¼
1885	11 3½	1 4½	12 8
1886	11 1¾	1 5½	12 7¼
1887	10 6	1 5½	11 11½
1888	10 2	1 6¼	11 8¼
1889	11 3¼	1 6½	12 9¾

Criminal Insane.

Criminal lunatics are confined at Parramatta, and usually num- :r about 60 persons ; at the end of last year, however, the total as only 51, as compared with 63 twelve months before. This is counted for by the fact that during 1889, while the admissions ımbered 6, there were 4 discharged, recovered, 1 died, and 13 ere transferred to other hospitals. The offences for which the iminal insane are detained are amongst the blackest in the ılendar, as will be seen from the following table, which refers to ıe number in the institution on the 31st December, 1889 :—

Criminal Insanity.

Crimes committed by the Insane.	Number of insane.		
	Males.	Females.	Total.
Murder	19	3	22
Attempt to murder	2	......	2
Manslaughter	2	......	2
Rape	2	......	2
Indecent assault	2	......	2
Unnatural offence	1	......	1
Cutting and wounding, shooting with intent, &c.	11	3	14
Sheep and horse stealing	3	......	3
Arson and malicious burning	......	1	1
Attempting suicide	......	2	2
Total	42	9	51

PART XV.

Employment.

Imperfect data.

TO obtain a fair approximation of the number of persons engaged in various walks of life in this Colony is a work of no small difficulty, the information which might serve as a basis for a calculation of this kind being of a very meagre and incomplete description. Until another census of the population is taken anything like an exact knowledge of the occupations of the people cannot be arrived at. At the census of 1881 an attempt was made to ascertain the occupations of the people; but the classification then adopted was unsatisfactory and unscientific, and an accurate comparison between the different provinces could not be made. None of the colonies had recognised the strong necessity of distinguishing the maker from the dealer, the industrial workers from those engaged in commercial pursuits, so it was impossible to determine with exactness each class. To avoid the repetition of this error it was resolved at an Australian Census Conference, held at Hobart in March last, to adopt a method of classification devised by the author in conjunction with Mr. R. M. Johnston, the talented statistician of Tasmania. Under the new system the population will be divided into two great divisions—workers and dependents. The workers will be arranged in the natural classes of primary producers and distributors, and these again into their various orders and sub-orders. By this arrangement it is hoped that the forthcoming census will afford valuable material for the elucidation of problems which now perplex the economist and the statesman, and will serve for a basis by which the future prosperity of Australasia may be gauged. The following figures

Australian Census Conference.

represent the numbers engaged in the principal pursuits so far as they can be classified, and may be taken as an approximation of the manner in which the population of New South Wales is employed.

Employment of Males.

During the year 1889 the number of males in the Colony over the age of 16 years was about 400,000. Of these 369,350 were supporting themselves and their dependents, and engaged in employments specified below; 7,300 were a burthen to the general community, being inmates of gaols, asylums, or public institutions. Of the number of workers given above 183,100 were engaged in what are commonly termed works of production, and thus distributed:—

Agriculture	80,000
Pastoral pursuits, including slaughtering for food	26,200
Mining	27,700
Manufactures	45,000
Minor works, quarries, irrigation, &c.	4,200

Classification of employment.

Of the remainder the occupations may be thus classified:—

Engaged in professional pursuits	8,700
Commercial including shopkeepers	29,000
Personal attendance and distributing food or drink...	23,900
Skilled and unskilled labourers engaged in building or construction	68,300
Transport by rail or water	18,100
State employés (not including teachers)	10,100
Military and police	2,150
Miscellaneous occupations not of a productive class...	26,000

This makes a total of 369,350 persons employed, so that the number of males in the Colony over 16 years and unemployed was about 30,650. A large number of these were lads who were not yet engaged in industrial occupations, 6,600 were old persons and others supported by their relatives or friends, besides 7,300 who were supported by the State; the remainder were those unable or undesirous to find employment, or persons whose means placed them above the need of work.

Employment of females.

The number of females above the age of 16 years was, in 1889, approximately 280,000. Of this number, 70,300, or about 25 per cent., were wage-earners, the great majority being engaged in domestic service, as will appear in the following table :—

Female Wage-earners.

Engaged in manufactories or needlework	11,200
Professional	4,400
Trade or commerce	4,800
Attendance and domestic avocations	37,900
Other workers	12,000

Percentage of workers.

Of the remaining number of females above the age of 16, 204,300 were engaged in various household duties, without wages, or supported by relatives, and 2,800 were dependent on the state, being inmates of asylums, gaols, and similar institutions.

The total number of male workers represents fully 60 per cent. of the male community, and the female 14·2 per cent. of all females; the total of all earners was 439,650, or 39·8 per cent. of the population.

AGRICULTURE, MINING, AND PASTORAL PURSUITS.

Hands employed in pastoral pursuits.

The number of persons regularly employed in pastoral pursuits is 22,480, a comparatively small proportion when compared with the pastoral interests of the Colony. There is, however, employment for a considerable number of others during a portion of the year, and it is estimated that an additional 17,000 hands find work during the months of August to November at shearing and other labour arising out of the wool season. Many of the persons thus casually employed are farmers and selectors who are able to leave their holdings during this portion of the year, while not a few are labourers from the neighbouring Colonies, especially from Victoria.

On sheep stations the number of persons employed was 20,160, or on an average one to every 2,500 sheep. On the cattle runs of the Colony there were about 2,320 hands, giving an average of one to every 750 head depastured. Taken by itself the statement that 22,480 persons are regularly employed on sheep and cattle stations and 17,000 others are employed for a part of the year would be misleading, since indirectly many more are maintained in employment by the work which the pastoral industry begets. How many persons are thus benefited, beyond those enumerated, cannot of course be given, but the number must certainly be considerable, seeing that for 1889 about £12,605,000, or slightly less than 75 per cent. of the domestic produce exported, was the result of the pastoral industry, while one-third of the earnings of the goods traffic of the Railways of the Colony is also directly due to the same source. The business of slaughtering for food, which has been grouped with stock-breeding, employs 3,720 hands.

Agriculture.

Agricultural pursuits find regular employment for 80,000 persons, and indirectly for many others. The area cultivated, excluding fallow and grass land, is 947,000 acres, so that the number stated would give 11·8 acres cultivated to each person employed, the averages being 1·03 acres in the vicinity of the metropolis, where market gardens, orchards, and vineyards are the chief forms of cultivation, and 12·6 acres in the other districts of the Colony.

Statistics are approximate.

The particulars above given, both in regard to stock and agriculture, must be taken as approximations. Although statistics regarding employment are taken every year it will be readily understood that as stock-raising and farming are carried on in many places side by side, it is quite impossible to distinguish accurately the number of hands assignable to each pursuit.

In the chapters of this volume devoted to agriculture, stock, and mining, will be found many other particulars regarding the persons engaged in these pursuits, as well as the nature of their avocations. It will, therefore, be needless to discuss the question of their employment further in this place.

MANUFACTORIES.

Manufactories of New South Wales.

ough New South Wales cannot be considered an important cturing country, this source of national wealth has by ns been neglected. During the year 1889 there were nanufactories or works of various descriptions, employing ier a total of 44,989 hands, of whom 40,725 were males, and males. These works had machinery in operation developing of 25,790 horse-power, and valued at £5,411,478, while ie of land and buildings was £8,649,281, so that the total employed in works and manufactories was £14,060,759. these there were 2,620 hands in works too small to be d with those enumerated.

Various Colonies compared.

nated by the number of hands employed in industries, New Wales stands second amongst the colonies of the group, a holding first place, as will be seen from the following ompiled from statements obtained from official sources. lowing are the figures for the latest dates procurable :—

Colony.	Manufactories and Works.	Hands employed.
uth Wales	2,926	44,989
a ..	3,305	59,142
land	1,334	....
Australia	747	11,964
ia	232	2,179
aland	1,946	22,095

* Census of 1886; the other Colonies, 1889.

Classification of manufactories in different colonies.

following is a classification of the works in the three s for which information is procurable. The particulars ; to New Zealand are for 1886, the details for the present t having been published.

Works and Factories in New South Wales, Victoria, and New Zealand.

Classification.	New South Wales.			Victoria.			New Zealand.*		
	Works.	Hands.	Value of Plant and Machinery.	Works.	Hands.	Value of Plant and Machinery.	Works.	Hands.	Value of Plant and Machinery.
	No.	No.	£	No.	No.	£	No.	No.	£
Treating raw material, the product of pastoral pursuits	175	2,422	156,997	167	1,778	135,041	107	1,123	42,530
Connected with food and drink or the preparation thereof	639	8,244	1,274,359	486	5,913	947,815	596	3,243	439,300
Clothing and textile fabrics	114	5,518	68,240	239	10,558	242,205	76	4,094	156,825
Building materials	688	6,982	703,075	409	5,031	377,978	423	5,739	513,327
Metal works, implements, machinery and engineering, railway carriages	313	8,211	953,841	393	10,892	970,711	97	2,342	150,781
Docks, slips, ship-building, and sail-making	61	1,225	322,424	26	310	58,920	90	307	34,690
Furniture, bedding, &c.	124	1,424	64,455	131	2,168	59,515	90	769	13,352
Paper, printing, binding, engraving, &c	227	4,688	479,525	171	5,243	505,633	137	2,144	173,316
Vehicles, harness, saddlery	285	2,475	89,460	297	3,681	118,341	92	693	24,263
Light and heat	45	1,414	966,987	33	890	1,604,842	20	344	448,329
Other works	255	2,386	332,115	953	12,678	913,129	218	1,297	111,312
	2,926	44,989	5,411,478	3,305	59,142	5,934,130	1,946	22,095	2,108,025

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* Census, [illegible]

Average value of works in different colonies.

The average value of plant in New South Wales is £1,849, the average power employed is 8·8 h.p., and the hands per factory, 15·4; in Victoria the figures are—Average value, £1,795; power, 8·6; and hands, 17·9; while in New Zealand they are—Value, £1,083; power, 7·9; and hands, 11·3. Estimating by the total hands employed, New South Wales is superior in works connected with food and drink, in works where ships are built or repaired, in treating raw material the product of pastoral pursuits, and in works connected with heating and lighting; in all other classes Victoria has the lead both over this colony and New Zealand. The superiority of New South Wales in the food manufactories is largely attributable to the employment created by the important industry for the treatment of raw sugar, obtained from cane grown in the colony. The large employment afforded by the works for refining or otherwise treating silver, copper, tin and lead, establishes the importance of the colony in the total of all works connected with metals. The classification of the works of these colonies under the heads above given is purely arbitrary, but may perhaps serve to illustrate the bearing of the natural resources of the different colonies on the encouragement of the manufacturing industry.

Plan adopted in compiling statistics.

In the Australian colonies most manufacturing industries are in their infancy, and are small in comparison with the large establishments of other countries, the number of establishments employing ten or more hands being only 994 in New South Wales last year, and 1,231 in Victoria in 1888. Unless, however, the beginnings of the various industries are now noted it will be impossible hereafter to trace their progress. No works which are simply retail establishments have been included in any of the following tables; and in fact steam or other power is employed in the majority of cases. Of the works which do not use power, only such have been enumerated as were in a fairly large way of business, or were of a special character, regarding which it was desirable to have statistics for future reference. Clothing factories employing less than ten hands, and boot factories with less than six hands, have not been taken into account, nor establishments of any kind having less than three hands.

Average hands per factory.

The average number of hands employed in each establishment was 15·4; the average for the metropolitan district being 21·8, and for the country districts 10·2. Compared with the scale on which manufactories are worked in the older countries of the world, these averages will appear very small, but should evoke no surprise when the nature of the works is considered, and the sparseness of the population throughout a large portion of the Colony. The following is a complete list of the works in operation during the year:—

Manufactories Classified, with the Number of Hands, Power, and Value of Plant employed during the year 1887.

Description of Manufactory or Work.	Number of Works.	Total Hands.	Power of Plant or Machinery	Approximate Value of Plant or Machinery.	Approximate Value of Land and Buildings.
Raw Material, the production of Pastoral Pursuits—			Horse-power.	£	£
Boiling-down and glue	16	140	157	11,000	19,507
Bone-dust and manure	6	36	99	13,250	5,050
Grease	1	4	4	....	....
Tanneries	81	760	430	48,627	103,055
Wool-washing and Fellmongering...............	71	1,482	850	84,120	130,684
	175	2,422	1,540	156,997	258,296
Connected with Food and Drink—					
Aerated waters	144	1,099	405	108,760	144,247
Beer, ale, stout	67	820	800	193,055	497,695
Biscuits.....................	6	375	89	45,062	72,800
Butter and cheese (steam)..	74	503	400	37,862	249,482
Ditto (other)	160	836	47	7,839	270,609
Coffee and spice	6	154	97	15,880	47,540
Condiments	2	33	16	1,050	2,800
Confectionery	21	497	93	26,625	73,200
Fish-preserving	2	31	8	750	430
Flour.........................	80	583	2,298	270,780	214,600
Fruit-canning and jam	6	310	103	10,500	29,635
Ice and refrigerating ...	8	157	318	56,200	68,525

f Manufactory Work.	Number of Works.	Total Hands.	Power of Plant or Machinery	Approximate Value of Plant or Machinery.	Approximate Value of Land and Buildings.
vith Food and *continued.*			Horse-power.	£	£
ad oatmeal ...	2	24	42	7,000	9,500
ng	8	38	25	2,746	4,385
erving	3	286	190	30,650	41,300
....	.....	......	......	....	....
g flour and owder	6	57	17	5,200	9,550
ned)............	1	230	250	....	....
r)	40	2,194	3,044	444,400	95,890
m)	2	13	42	10,000	3,000
....	1	4	8	....	....
	639	8,244	8,292	1,274,359	1,835,608
and Textile —					
shoes	59	2,420	150	34,603	96,520
nillinery, &c.	30	2,745	5	9,465	110,795
....	2	12	......	240	4,000
caps	14	106	4	1,602	12,202
thing	3	58	......	330	330
....	1	5	......	....	....
loth	5	172	153	22,000	29,500
	114	5,518	312	68,240	253,347
aterials—					
ad pavement	9	76	83	16,836	8,910
....	211	1,874	1,401	162,166	262,697
....	61	702	544	70,870	160,203
....	18	177	21	12,420	7,630
and patterns	8	44	......	2,150	9,725
....	37	259	24	5,367	41,925
varnish	2	12	18	16,100	13,600
....	17	260	123	21,000	44,310
....	325	3,578	5,317	396,166	436,272
	688	6,982	7,531	703,075	985,272
ks, Machines, ery, &c.—					
implements ..	22	187	75	15,430	24,715
ron & plumbing	45	500	26	19,660	95,507
rass foundries	62	1,288	578	93,940	138,424
rs (other) ..	32	252	316	20,018	36,948
and engineering	55	1,996	1,431	344,615	336,672
orkshops, &c.	17	2,229	531	130,540	52,950
ilver, copper, ...	21	1,276	968	275,838	125,018
....	39	248	10	10,540	37,205
ks	8	106	32	37,210	20,639
other metals	12	129	17	6,050	23,812
	313	8,211	3,984	953,841	866,890

Description of Manufactory or Work.	Number of Works.	Total Hands.	Power of Plant or Machinery	Approximate Value of Plant or Machinery.	Approximate Value of Land and Buildings.
Ship-building, Repairing, &c.—			Horse-power.	£	£
Dry docks, floating docks, and slips	10	413	453	304,200	179,400
Masts and blocks	1	4	6	....	....
Sails, tarpaulins, &c. ...	16	98	3	1,529	7,050
Ship and boat building, &c.	34	710	119	16,695	35,300
	61	1,225	581	322,424	221,750
Furniture, Bedding, &c.—					
Bedding	15	191	43	7,455	35,987
Curled hair and flock...	4	16	36	2,100	2,450
Furniture.....	87	1,103	192	51,900	168,079
Mats and Matting	1	12	3	....	....
Picture-frames	9	38	... ..	330	10,450
Window-blinds	8	64	21	2,670	8,687
	124	1,424	295	64,455	225,653
Books, Paper, Printing, and Engraving—					
Account books, &c.	24	646	23	22,420	39,675
Engraving, &c.	7	36	......	614	6,072
Paper	1	66	200	.. ..	....
Paper bags and boxes...	7	86	1	3,700	7,970
Photo - lithography, electro-photo engraving, &c.	2	29	1	1,175	6,875
Printing and lithographic printing	180	3,784	481	448,716	540,244
Printing ink, printer's materials, sealing-wax, &c.	2	7	7	900	3,750
Rubber stamps.	2	12	1	1,000	1,750
Type	2	22	......	1,000	2,212
	227	4,688	714	479,525	608,548
Vehicles, harness, and Saddlery—					
Coaches and waggons...	218	1,948	199	81,552	261,125
Saddlery, saddle-trees, whips, &c.	67	527	7	7,908	107,770
	285	2,475	206	89,460	368,895
Light, Fuel, and Heat—					
Electric light	7	32	339	37,200	45,550
Coke	6	72	58	8,500	7,500
Gas	30	1,059	406	831,287	2,258,572
Kerosene Oil	2	251	260	90,000	24,000
	45	1,414	1,063	966,987	2,335,622

Description of Manufactory or Work.	Number of Works.	Total Hands.	Power of Plant or Machinery	Approximate Value of Plant or Machinery.	Approximate Value of Land and Buildings.
			Horse-power.	£	£
Miscellaneous—					
Bark mills	2	9	37	1,200	3,060
Baskets......................	10	72	......	1,686	7,302
Brushes	4	32	......	1,780	9,250
Chaff and crushed corn	100	446	477	24,306	90,782
Chemicals, patent medicines, &c.	5	83	88	21,100	34,900
Compressed & fancy leather	2	8	5	100	1,875
Cooperage	10	150	25	1,900	24,112
Dye works	7	41	8	1,675	9,000
Electroplating	3	27	7	3,500	5,000
Glass and glass-staining	7	108	18	3,100	18,205
Jewellery	32	173	......	4,860	37,837
Millet brooms	2	26	3	1,020	2,600
Mint	1	28	30	....	.. ..
Packing-cases	6	92	33	5,080	12,737
Philosophical, optical, & surgical instruments	10	61	3	1,703	8,500
Portmanteaux	2	12	1	250	950
Poudrette and Ammonia	2	13	20	4,500	2,500
Ropes	6	106	70	14,705	16,770
Soap, candles, soap-powder, and soda......	30	250	355	56,690	51,625
Tobacco, cigars, &c. ...	10	621	91	75,770	106,100
Other works not included above	4	28	1	17,190	248,795
	255	2,386	1,272	332,115	689,400
General total.........	2,926	44,989	25,790	5,411,478	8,649,281

In order not to disclose the business of any establishment, in cases where there is only one of each description, these particulars have been included under the last item, "Other works not included above."

Large number of works for treating raw produce.

Progress of manufactures.

It will be seen that a large proportion of the establishments included in the foregoing list are connected with the preparation of food, or raw produce; for, out of a total of 44,989, the hands employed in treating food, or animal, vegetable, and mineral products advanced one stage only towards complete manufacture, numbered 12,955, or about 28 per cent. There has, however, been fair progress in other directions, and, as will be seen from a subsequent table, the growth of the manufacturing power has been in keeping with the general progress observable in other departments of industry. The number of persons dependent for their livelihood on the manufacturing interest may be estimated at about 184,000, or one-sixth of the whole population of the Colony.

In the following table the gradual progress of the manufacturing industry of the Colony since the year 1878 may be readily traced. It will be noticed that the total number of works of all kinds has risen in the short period embraced by the table from 2,551 in 1878, to 2,926 in 1889, or nearly 15 per cent., while the number of hands employed has advanced from 24,741 to 44,989, or nearly 82 per cent. during twelve years :—

Hands employed in Works and Factories, 1878–89.

Year.	No. of Manufactories, &c.	No. of Hands employed.		
		Male.	Female.	Total.
1878	2,551	21,512	3,229	24,741
1879	2,654	22,989	2,695	25,684
1880	2,779	26,452	1,807	28,259
1881	2,961	28,819	2,372	31,191
1882	3,158	31,824	2,065	33,889
1883	3,224	32,350	2,384	34,734
1884	3,419	36,390	2,404	38,794
1885	3,541	38,255	3,420	41,677
1886	3,541	40,160	3,367	43,527
1887	3,349	39,365	3,686	43,051
1888	3,106	41,299	4,265	45,564
1889	2,926	40,725	4,264	44,989

Females employed.

A satisfactory feature of the progress exhibited is that the number of women employed in factories and works has not increased at the same rapid rate as male employés. In 1878, the number of females employed was 3,229, and in 1889, 4,264, showing an increase of 1,035, or 32 per cent., in eleven years, while those of the opposite sex increased 89 per cent. during the same period. An examination of the following table will show that the increase in the number of females has been chiefly confined to book-binding and tobacco and boot factories, whilst in the manufacture of clothing, the number of women now employed is probably less than that of 1878. No returns have been received of the number of women engaged in shirt-making during 1889, but it does not follow from this that the industry has ceased to exist. On the contrary, it is largely carried on in places not exclusively devoted to it, and the shirt-makers are probably included with others under the comprehensive title of clothing manufacturers.

Nature of Industry.	1879.	1880.	1881.	1882.	1883.	1884.	1885.	1886.	1887.	1888.	1889.
Aerated Waters, &c. ...	11	6	14	14	189	12	23	7	4	24	49
Account Books, &c.......	68	64	84	83	131	144	177	186	223	290	265
Bedding	22	31	35	43	60	52	60	45	35	37	32
Biscuits	5	11	14	26	33	53	62	79	91	98	90
Boots and Shoes	373	341	377	341	377	418	433	409	436	427	465
Clothing	1,487	830	1,260	994	1,071	1,112	1,794	1,686	1,826	2,247	2,190
Confectionery	74	33	44	34	47	45	60	69	80	76	85
Hats and Caps	30	26	12	23	24	45	55	45	46	71	36
Jam and Fruit Canning	13	10	5	8	12	23	23	52	15	16	110
Printing	54	19	9	......	24	36	76	31	64	22	54
Paper Bags and Boxes...	7	10	22	4	2	19	24	37	45	49	59
Shirts	314	175	166	96	68	50	100	26	25	34	......
Soap-powder, Soap, and Candles	14	22	23	39	30	28	26	11	11	47	......
Tobacco Manufactories..	41	56	50	86	90	155	257	144	156	161	167
Woollen-cloth ,, ..	119	100	157	119	112	137	189	78	71	60	62
Other Industries, not enumerated above ...	63	73	100	155	114	75	61	462	558	606	600
Total..............	2,695	1,807	2,372	2,065	2,384	2,404	3,420	3,367	3,686	4,265	4,264

Ample field for establishing new factories.

As regards the future, however, a vast field is open for the development of manufactures in New South Wales. Producing, as it does, the raw material of various kinds necessary for supplying the primary wants of civilization, it is evident that the Colony will not long continue the wasteful process of exporting the raw article and taking it back again in the shape of manufactured goods. The one great cause which has hitherto operated to prevent the larger development of manufactures is the abundant employment which has easily been found for labour and capital in other directions, such as mining, agricultural, and pastoral pursuits. It cannot be anticipated that these fields for investment will always remain open, and capital must then seek other channels.

Manufacture of woollen cloth.

The manufacture of wool into cloth and other articles seems specially adapted to the circumstances of New South Wales as a wool-growing country; but this industry has made no progress. The following table shows the number of woollen-mills in operation, the number of employés, and the quantity of cloth manufactured :—

Woollen Mills.

Year.	Number of Woollen-mills.	Hands Employed.			Quantity of Woollen Cloth Manufactured.
		Male.	Female.	Total.	
					Yards.
1878	9	145	53	198	480,037
1879	9	157	119	276	415,400
1880	8	114	100	214	353,100
1881	5	178	157	335	358,000
1882	8	266	119	385	319,225
1883	9	260	112	372	352,000
1884	7	175	137	312	305,000
1885	6	134	189	323	337,750
1886	6	104	78	182	324,788
1887	5	101	71	172	348,000
1888	5	117	60	177	241,000
1889	5	110	62	172	207,500

Number of Woollen Mills decreased.

From these figures it will be noticed that the number of woollen-mills in operation has decreased, and that those now at work provide employment for 172 persons only. During the years 1882 and 1883 more than twice this number of hands were employed, and even at the beginning of the last decade 214 persons were provided with work in this branch of industry. The quantity of cloth manufactured, as a necessary consequence, has also considerably decreased. When, however, it is remembered that the export of wool reached the sum of £10,620,636 in 1889, and that wearing apparel to the amount of over £1,000,000, blankets £47,729, and vast quantities of other woollen goods, were imported during the same year, the full significance of the small number of persons engaged in the manufacture of woollen cloth will be at once perceived. The quantity of tweed made is that returned by the manufacturers. The great decline in the production during 1889, as compared with the year 1887, when the number of hands employed was the same, can only be accounted for on the supposition that the material manufactured was much more valuable, which is improbable, or that the mills worked shorter time than in the year 1887.

Import of woollens.

The manufacture of boots and shoes exhibits little progress, as may be seen from the table below. It is noteworthy, however, that the quantity manufactured has considerably increased, due evidently to the improvement, during the period covered by the table, in the effectiveness of the machinery applied to this industry :—

Manufacture of boots.

Boot Factories.

Year.	Number of Boot Factories.	Hands Employed.		
		Males.	Females.	Total.
1878	71	1,584	299	1,883
1879	71	1,750	373	2,123
1880	75	2,038	341	2,379
1881	71	1,849	377	2,226
1882	62	1,695	341	2,036
1883	61	1,748	377	2,125
1884	68	1,871	418	2,289
1885	65	1,672	433	2,105
1886	68	1,856	416	2,272
1887	60	1,837	436	2,273
1888	57	1,618	427	2,045
1889	59	1,955	465	2,420

From the above figures it will be noticed that although there is a slight increase in the number of hands—which from 1,883 in 1878 had risen to 2,420 in 1889—yet the number of establishments has considerably decreased. This would indicate a tendency for large factories to supersede small works, and drive the latter out of competition in this particular branch of manufacture. The average number of hands employed in each factory has risen from 26·5 in 1878 to 41 in 1889. The number of pairs of boots made during the year was 2,196,815, giving an average of 908 per head employed, as compared with 1,250 in 1888, 1,002 in 1887, and 828 in 1886.

Prospects of iron trade.

What should, in time, form another great staple industry of Australia is undoubtedly the iron trade. Every advantage possessed by the great iron and machinery producing countries of the world—such as England and Belgium—is also present here. Not only are iron and coal deposited in abundance, and in positions easily accessible and readily worked, but, as pointed out on page 89, the local iron ore is exceedingly rich. Scarcely any progress, however, has been made in iron smelting, and nearly the whole stock of pig and wrought iron required for the local manufactories is imported. The other descriptions of metal works, both for smelting and manufacturing, are in a more forward state. Works for the treatment of metals in 1879 numbered 196, in which were engaged 3,438 persons, while in 1889 the number of works had increased to 289, and the hands employed to 8,024, agricultural implement factories not being included in either year. The chief feature in the progress thus exhibited is the large development of smelting works, which in 1879 employed 552 hands in 21 establishments, while now the works still number 21, but the hands employed are 1,276. There has also been a large increase in the hands employed making or repairing railway motors, carriages, and other appliances, the employes in 1879 numbering 823 and in 1889, 2,229. The bulk of these were employed in the workshops connected with the State railways.

Preparation of raw materials.

As regards the preparation of raw materials, the products of pastoral pursuits, the rate of increase has been not a little affected by the seasons, so that, under the heads of boiling-down, fellmongering, tanning, woolwashing, and allied pursuits, the number of hands employed has only increased from 1,831 in 1879 to 2,422 in 1889, while that of the works has fallen from 253 in 1879 to 175 in 1889.

Breweries.

Brewing and the manufacture of raw and refined sugar are two lustries which have increased during the last decennial period, d there can be no doubt that these branches of manufacture will eive further development. As regards the former, in 1879 ere were 45 breweries and bottling establishments in the Colony ploying 561 hands, while in 1889 the numbers had risen to and 826 respectively. The quantity of ale and beer imported m abroad during 1889 reached a value of £438,094, not a very ge amount considering that £329,902 of it was for beer in bottle, ich the colonial breweries have, so far, not attempted to produce any extensive scale. The following table illustrates the position the brewing and bottling industry and its progress during the t nine years :—

Beer imported.

Breweries.

Year.	Number of Breweries and Bottling Establishments.	Hands Employed.	Quantity manufactured, Ale, Beer, &c.
			Gallons.
1881	50	637	*
1882	56	699	*
1883	59	747	*
1884	60	788	*
1885	70	805	*11,000,000
1886	74	987	*10,000,000
1887	75	804	9,720,000
1888	79	850	9,300,209
1889	76	826	9,515,200

* Only approximately ascertained.

Soap and candles.

The making of soap and candles, which may be reckoned a rely colonial production, seeing that tallow is one of the ple products, experienced a satisfactory advance. The number factories in existence in 1877 was 36, turning out 92,958 t. of soap. In 1889 the quantity reached 164,800 cwt. The tistics bearing on the production of candles are not reliable ior to 1885. In the year named the production was 1,683,360 , while in 1889 the quantity was 2,388,440 lb. The class of ndles made is chiefly stearine, which has now almost entirely perseded the common tallow candle. The value of the capital nployed in the year 1889 was £108,315, and the steam developed as equivalent to 355 horse-power.

Class of candles made.

Soap and Candle Manufactories.

Year.	Number of Soap and Candle Factories.	Hands Employed.	Quantities Manufactured.	
			Soap.	Candles.
			cwt.	lb.
1877	36	173	92,958	....
1878	34	180	77,655	....
1879	34	169	64,524	....
1880	38	203	114,118	....
1881	38	232	106,962	....
1882	40	263	112,513	....
1883	38	220	121,794	....
1884	34	204	131,244	....
1885	40	223	138,849	1,683.360
1886	46	321	155,430	2,199,282
1887	52	367	190,060	2,442,960
1888	59	397	198,880	2,216,000
1889	30	250	164,800	2,388,440

Saw mills.

The number of persons employed in the various timber districts, in saw-mills, &c., has also increased at a good ratio during the last eleven years. The establishments in 1879 numbered 232, employing a total number of 2,072 persons, while in 1889 there were 325 mills, and the number of hands employed was 3,578. The value of capital employed in 1889 was £832,438, the horse-power 5,317, while the quantity of timber sawn was estimated at 185,021,000 feet 1-inch thick :—

Saw-mills.

Year.	Number of Saw-mills.	Hands employed.	Year.	Number of Saw-mills.	Hands employed.
1879	232	2,072	1885	415	3,783
1880	243	2,458	1886	323	3,284
1881	280	2,382	1887	322	3,254
1882	334	3,013	1888	317	3,616
1883	370	3,318	1889	325	3,578
1884	376	3,477			

Sugar-growing.

The growth of sugar-cane, and the manufacture of sugar therefrom, in the northern districts of the Colony, is now becoming an important industry, though the output of 1889 was much below that of 1887, when 450,000 cwt. of sugar and 880,000 gallons of molasses were made. Last year the production was 380,320 cwt. of sugar, and 494,145 gallons of molasses.

Number of sugar mills.

Tendency to separate sugar-growing and making.

Since 1887 there has been a considerable increase in the breadth of land under this crop, and, in the year just closed, there were 18,730 acres planted with cane, of which 7,348 acres were productive. In 1877 the number of mills was 50, of which 24 used steam-power, whilst 26 were worked by cattle, and the number of workmen employed was 1,065. These increased, in the year 1885, to 83 steam-mills and 19 worked by cattle, whilst the number of men employed, and the quantity of sugar and molasses turned out, correspondingly increased; but since then the fall in the value of sugar has caused many of the smaller establishments to be closed, and the cane grown has been to an increasing extent sold to the large factories, which pay to the growers a price but slightly below that given prior to 1885. Almost everywhere the tendency to concentrate the manufacture of sugar in large central establishments is increasing; in the West Indies and elsewhere small mills are rapidly disappearing to make room for larger establishments, where business is strictly confined to the industrial process of sugar making, the planters attending solely to the cultivation of the cane.

The following table gives the particulars of the sugar industry for the last thirteen years :—

Sugar Mills.

Year.	Sugar Mills.		Horse-power.		Quantity of Sugar Manufactured.	Quantity of Molasses Manufactured.	*Hands Employed.
	Worked by Steam.	Worked by Cattle.	Steam.	Cattle.			
					cwt.	gallons.	
1877	24	26	503	108	150,744	345,543	1,065
1878	36	23	627	119	163,203	532,825	1,158
1879	44	21	637	185	153,833	440,506	1,432
1880	50	15	1,601	76	146,003	269,092	2,183
1881	59	17	1,432	63	159,048	354,402	1,665
1882	70	16	978	49	270,000	560,000	1,039
1883	79	14	2,651	44	280,000	580,000	1.285
1884	86	12	2,855	50	230,000	450,000	2,190
1885	83	19	2,598	32	369,280	635,000	2,634
1886	57	7	2,531	21	275,000	507,000	2,259
1887	57	7	2,210	26	450,000	880,000	2,646
1888	36	.. ...	1,995	......	225,580	241,088	1,640
1889	38	2	3,034	10	380,320	494,145	2,194

* Hands employed at least for six months in the year.

Sugar refineries. There were two establishments in the Colony for refining raw sugar in 1889, one of which has since been closed. The quantity of sugar melted in 1889 was 600,000 cwt., of which 351,000 cwt. was imported, chiefly from the East Indies, Queensland, China, and Fiji. The remaining 249,000 cwt. was raw sugar produced in the Colony. As the total quantity made at the mills was 380,320 cwt., it would appear that, even allowing for the amount that went into consumption without being refined, some 120,000 or 130,000 cwt. was held over to be refined during the present year.

Sugar Refineries.

Year.	Sugar Refineries.	Number of Hands employed.	Quantity of Sugar melted.
			cwt.
1877	2	165	259,650
1878	2	153	324,480
1879	2	181	388,480
1880	2	166	414,400
1881	2	222	514,400
1882	2	235	470,000
1883	2	214	468,000
1884	2	172	370,000
1885	2	224	384,000
1886	2	214	510,000
1887	1	200	537,900
1888	1	210	550,149
1889	1	230	600,000

The numbers given above are only those of the men in constant employment; in addition there are many others employed for longer or shorter periods discharging ships, storing sugar, and other work incidental to the trade.

Colonial Sugar Company.

In New South Wales, almost from the introduction of the sugar-growing industry, the manufacture of sugar has been largely in the hands of the Colonial Sugar Refining Company, whose mills on the Clarence and on the Richmond have been referred to in another part of this work. This company also owns the only sugar refinery in New South Wales, where the produce of their mills in this colony is refined, together with a portion of the output of their factories in Fiji and Queensland. The other establishments, locally known as refineries, whether worked by steam or cattle, are mostly small factories in which sugar of an inferior quality is turned out, which has afterwards to undergo the process of refining.

Tobacco manufactories

The use of tobacco manufactured in the Colony has, to a very large extent, superseded that of imported tobacco. The amount of cigars and cigarettes made in the Colony is, on the other hand, very small compared with the total quantity of these commodities consumed. The weight of each description of tobacco used in the Colony during 1889 amounted to :—

	Imported Manufactured.	Made in the Colony.	Total.
	lb.	lb.	lb.
Tobacco	715,760	1,971,394	2,687,154
Cigars	246,537	5,393	251,930
Cigarettes	71,957	9,200	81,157

Imported leaf largely used.

A large amount of imported leaf is used in the manufacture of tobacco in the Colony, the proportion during the past year being 560,336 lb. of imported leaf to 1,425,651 lb. of New South Wales leaf, chiefly American. The quantities of each kind of tobacco made in the Colony, as well as the weight of leaf used in the manufacture, will be found in the following table. The quantity of leaf given does not include stalks and stems, which are taken out in the process of manufacture. The proportion of leaf not used would be about 20 per cent. of the total weight.

Tobacco Factories.

Year.	No. of Tobacco Factories.	No. of Cigar and Cigarette Factories.	Hands Employed.		Tobacco Leaf Used.		Quantity Manufactured.		
			Males.	Females.	Colonial Leaf.	Imported Leaf.	Tobacco.	Cigars.	Cigarettes.
					℔.	℔.	℔.	℔.	℔.
1885	16	9	411	257	1,460,683	688,788	2,133,168	9,402	6,901
1886	17	9	559	144	1,482,726	573,979	2,044,240	7,125	5,340
1887	13	10	506	156	1,595,201	568,543	2,147,418	6,057	10,269
1888	14	9	554	161	1,451,895	622,405	2,062,380	3,624	8,296
1889	10	4	454	167	1,425,651	560,336	1,971,394	5,393	9,200

Mills for grinding and dressing grain.

The amount of mill-power for grinding and dressing grain is ample for treating the flour consumed in the Colony. As the Colony does not produce sufficient grain for its own requirements, it is not at all probable that there will be any notable increase in the number of flour-mills, as those existing are mostly at work only part of their time. Wind and horse-power, as applied to the dressing of grain, have fallen into disuse, and though some water-mills still exist, there are not so many as formerly, and their number is decreasing. The returns of the millers for the year 1888 showed that the quantity of flour made was 129,445 tons, and 118,691 tons in 1889. It is believed that these figures are considerably overstated, and other sources of information give the quantities which will be found in the following table, and these are believed to approximate closely to the truth :—

Flour made in the Colony.

Flour Manufactured.

Year.	New South Wales Wheat treated.	Imported Wheat treated.	Total Wheat treated.	Total Flour made.
	Bushels.	Bushels.	Bushels.	Tons.
1878	2,224,650	714,488	2,939,138	58,783
1879	3,147,761	390,618	3,538,379	70,767
1880	3,321,556	300,620	3,622,176	72,443
1881	3,400,934	108,096	3,509,030	70,180
1882	3,136,461	629,841	3,766,302	75,326
1883	3,733,171	175,138	3,908,309	78,166
1884	3,983,246	418,434	4,401,680	88,033
1885	3,927,273	497,775	4,425,048	88,501
1886	2,402,057	984,773	3,386,820	67 736
1887	4,460,629	233,535	4,694,164	93,883
1888	3,975,030	1,509,646	5,484,676	114,270
1889	1,403,526	2,731,602	4,135,128	86,150

The following are the particulars of the mills in operation in the Colony for the last twelve years :—

Mills for Grinding and Dressing Grain.

Year.	Steam.		Water.		Wind.		Horse.		Total.		Hands Employed.
	No.	Horse-power.	No.	Horse-power.	No.	Horse-power.	No.	Horse-power.	No.	Horse-power.	
1878	152	2,577	10	88	1	10	2	2	165	2,677	664
1879	147	2,580	9	84	1	10	4	10	161	2,684	546
1880	140	2,551	7	88	1	10	2	10	150	2,659	566
1881	148	2,806	9	95	1	10	1	2	159	2,913	695
1882	156	2,929	7	72	1	10	2	14	166	3,025	703
1883	145	2,759	9	88	......	......	......	......	154	2,847	685
1884	153	3,109	8	98	......	......	......	......	161	3,207	662
1885	152	3,026	7	66	......	......	......	......	159	3,092	662
1886	128	2,602	5	48	......	......	......	......	133	2,650	571
1887	122	2,721	5	48	......	......	1	12	128	2,781	599
1888	107	2,844	3	33	......	......	......	......	110	2,877	628
1889	101	2,611	2	27	......	......	......	......	103	2,638	635

WAGES.

Constant demand for labour.

New South Wales, as in most other Australian Colonies, the settlement of the country has created a demand for labour kinds, which could not be satisfied except by a constant ion of labourers from other countries. This demand, which een continuous for many years, has resulted in the establish- of a rate of wages much higher than is ordinarily found in lands. The wave of depression which affected most coun- luring 1885-8 did not leave this Colony untouched, and the ring classes shared largely in the general suffering. Although ormal rate of wages sanctioned by the various labour organi- is showed no decline, the actual amount which workmen were g to accept in most trades was below these rates. The slight l of prosperity which appears to have set in has had a bene- effect, and the following rates may be taken as now current Colony :—

Wages accepted by trades.

Rates of Wages of various Trades, &c., during 1889.

Metal Workers.

iron workers	9/-	per day of	8	hours.
miths	8/- to 9/-	,,	8	,,
miths' strikers	6/- to 8/-	,,	8	,,
makers	9/4 to 10/8	,,	8	,,
finishers	9/- to 10/-	,,	8	,,
r-smiths	9/- to 10/-	,,	8	,,
gated-iron workers.....	9/-	,,	8	,,
-drivers	7/- to 8/-	,,	8	,,
-fitters	9/4 to 10/8	,,	8	,,
emen	7/- to 8/-	,,	8	,,
ized-iron workers......	9/-	,,	8	,,
oulders	9/4 to 10/8	,,	8	,,
rers (in iron trades) ...	6/- to 8/-	,,	8	,,
rights	9/4 to 10/8	,,	8	,,
n-makers	9/4 to 10/8	,,	8	,,
ilders	9/4 to 10/8	,,	8	,,
iths.........................	8/- to 10/-	,,	8	,,
rs (iron)	9/4 to 10/8	,,	8	,,
orkers	6/- to 10/-	,,	9	,,

Timber Workers.

Cabinet-makers	9/-	per day of 9 hours.
Carpenters	10/- to 12/-	,, 8 ,,
Joiners	10/- to 12/-	,, 8 ,,
Sawyers	9/- to 10/-	,, 9 ,,
Wood-carving	8/-	,, 8 ,,
Wood-turners	8/-	,, 8 ,,
Chinese cabinet-makers	20/- to 40/-	per week of 54 hours, with board and lodging.

Building Trades (General).

Bricklayers	11/-	per day of 8 hours.
Gasfitters	10/-	,, 8 ,,
Labourers (builders)	8/-	,, 8 ,,
Painters	9/- to 10/-	,, 8 ,,
Plasterers	10/- to 11/-	,, 8 ,,
Plumbers	8/- to 10/-	,, 8 ,,
Stonemasons	11/-	,, 8 ,,
Slaters	10/-	,, 8 ,,

Leather Workers.

Bootmakers	45/- to 60/-	per week of 50 hours.
Curriers	45/-	,, 54 ,,
Harnessmakers	45/-	,, 54 ,,
Portmanteau makers	36/- to 40/-	per week of 54 hours.
Saddlers	40/- to 50/-	,, 54 ,,
Tanners	45/-	,, 54 ,,
Warehousemen	57/6	,, 50 ,,
Machinists (females)	20/- to 30/-	,, 50 ,,

Stationery, Printing, &c.

Bookbinders	8/- to 11/-	per day of 8 hours.
Compositors	10/-	,, piecework, 1/1 and 1/2 per 1,000; 1/8 per hour overtime.
Engravers (metal)	60/- to 80/-	per week of 54 hours.
,, (wood)	50/- to 60/-	,, 54 ,,
Lithographers	10/- to 12/-	per day of 8 hours.
Pressmen	9/- to 10/-	,, 8 ,,
Stationers	10/- to 12/-	,, 8 ,,
Stereotypers	9/- to 10/-	,, 8 ,,
Warehousemen	60/- to 80/-	per week of 48 hours.

Woollen Cloth Manufactory.

n	60/-	per week of 60 hours.
en	40/-	,, 60 ,,
	30/-	,, 60 ,,
ghts	60/-	,, 60 ,,
s (female)	25/-	,, 60 ,,
	9/-	,, 60 ,,
	9/-	,, 60 ,,

Clothiers.

Males.

	£5 to £8	per week of 56 hours.
' assistants	£2 to £5	,, 60 ,,
	8/- to 10/-	per day of 9 hours.
makers	8/-	,, 9 ,,
	10/-	,, 9 ,,
tters	12/- to 20/-	,, 8 ,,
	8/- to 10/-	,, 9 ,,

Females.

akers	60/-	per week of 50 hours.
assistants	15/- to 20/-	,, 50 ,,
rs	60/- to 80/-	,, 50 ,,
assistants	10/- to 20/-	,, 50 ,,
sses	3/6 to 6/-	per day, 50 hours per week.
ers	1/- to 2/-	,, ,,

Food and Drink Supply.

	55/- to 80/-	per week of 50 hours.
firemen	40/-	,, 50 ,,
rs—slaughtermen	50/- to 70/-	,, 60 ,,
shopmen	30/- to 40/-	,, 70 ,, (with board).
boys	15/- to 20/-	per week of 70 hours (with board and residence).
ioners	50/-	per week of 48 hours.
nen	20/- to 60/-	per week, no fixed time specified.
' assistants	30/- to 40/-	,, of 66 hours.
	80/-	,, 60 ,,
nds	40/- to 50/-	,, 60 ,,

Gardeners, Market.

an	20/- to 40/-	per week (with board).
	16/- to 20/-	,, ,,

Maritime Pursuits.

Boatswains	£8	per month, 48 hours per week
Coal-trimmers	£7	,, 48 ,,
Deck-hands	£7	,, 48 ,,
Engineers, first	£20	per month, no fixed time specified.
,, second	£16	,, ,,
Firemen	£9	,, 48 hours per week
Lumpers	1/3	per hour, no fixed time specified.
,, constant hands	50/-	per week of 60 hours.
Masters and engineers of harbour boats	55/-	,, 90 ,,
Sailmakers	10/-	per day, 54 hours per week.
Sailors	£7	per month, 48 hours per week
Sea cooks	£4 to £12	,, 48 ,,
Wharf labourers	1/- to 1/6	per hour, 48 hours per week.
Youths on steamers	15/- to 22/-	per week of 48 hours.

Coaching.

'Busmen	36/- to 50/-	per week of 70 hours.
'Bus conductors	15/- to 20/-	,, ,,
Dray and trollymen	40/- for one horse, 2/6 for every additional.	70 hours.
Drivers (licensed)	20/- with board and lodging, 36/- if without.	70 hours.
Farriers	8/- to 9/-	per day, 48 hours per week.
Grooms	36/-	per week of 72 hours.

Attendance and Service.

Males.

Barmen	20/- to 40/-	per week, with board and lodging, no fixed time specified.
Butlers	20/- to 30/-	,, ,,
Coachmen	20/-	,, ,,
Cooks	20/- to 60/-	,, ,,
Dairymen	15/- to 20/-	,, ,,
Gardeners	20/- to 30/-	,, ,,
Gardeners' Labourers	15/- to 20/-	,, ,,
Scullery	15/- to 20/-	,, ,,
Waiters	20/- to 25/-	,, ,,

Female.

Barmaids	20/- to 30/-	per week, with board and lodging, no fixed time specified.
Cooks	25/-	,, ,,
General Servants	10/- to 18/-	,, ,,
Housemaids	12/- to 16/-	,, ,,
Laundresses	16/- to 20/-	,, ,,
Nursemaids	7/- to 10/-	,, ,,
Waitresses	14/- to 20/-	,, ,,

Agricultural and Pastoral Pursuits.

Agricultural Labourers	£30 to £50	per annum, no fixed time specified.
Boundary Riders	£40 to £50	,, ,,
Bush Carpenters	£40 to £50	,, ,,
Cooks (Station)	£30 to £50	,, ,,
Farm Hands	£30 to £50	,, ,,
Fellmongers	7/6	per day, 55 hours per week.
Fencers	£40 to £50	per annum, with board and lodging, no fixed time specified.
Married Couples (wife cook)	£65 to £80	,, ,,
,, ,, (husband cook)	£75 to £100	,, ,,
Shearers	20/-	per 100 sheep, no fixed time specified.
Stockmen	£40 to £60	per annum, with keep, no fixed time specified.
Winegrowers	£70 to £100	,, ,,
Wool-scourers	7/6	per day, or in piecework 1¼d. to 1½d. per lb., no fixed time specified.
Wool-sorters	20/-	per 1,000 fleeces, ,, ,,

Miscellaneous Trades.

Basket-makers	40/- to 50/-	per week of 48 hours.
,, (Blind)	15/- to 30/-	,, 48 ,,
Bellows-makers	50/-	,, 54 ,,
Coach-builders	8/- to 10/-	per day of 8 hours.
Coach-painters	8/- to 10/-	,, 8 ,,
Coach-trimmers	8/- to 10/-	,, 8 ,,
Coopers (generally piece-work)	55/-	per week of 44 hours (average earning).
French-polishers	8/- to 10/-	per day of 8 hours.
Gas-stokers	9/6	,, 56 hours per week.

Hair-dressers	40/– to 60/–	per week of 54 hours.
Jewellers	8/– to 10/–	per day of 8 hours.
Labourers	6/– to 8/–	,, 8 ,,
Perambulator-makers	7/– to 9/–	,, 8 ,,
Photographers	80/–	per week of 48 hours.
,, assistants	30/– to 40/–	,, 48 ,,
Potters	8/– to 10/–	per day of 8 hours.
Quarrymen	10/–	,, 8 ,,
Soapmakers	45/–	per week of 56 hours.
Sweeps	36/–	,,
Tobacco operatives	40/– to 80/–	,, of 54 hours.
Upholsterers	8/– to 9/–	per day, 54 hours per week.
Wheelwrights	8/– to 10/–	,, 48 ,,

Municipal Employés (City.)

Carpenters	8/– to 10/–	per day, 44 hours per week.
Carters	11/6	,, 44 ,, (finding horse.)
Engineers	11/– to 12/–	per day, 44 hours per week.
Engine-drivers	8/–	,, 44 ,,
Gangers	9/– to 11/–	,, 44 ,,
Labourers	7/– to 8/–	,, 44 ,,
Overseers	8/– to 9/–	,, 44 ,,
Regulators of street traffic	8/– to 9/–	,, 44 ,,

State Railway Employés.

Blacksmiths	9/– to 12/2	per day of 8 hours.
,, strikers	7/6 to 8/6	,, 8 ,,
Boilermakers	9/– to 12/2	,, 8 ,,
Brakesmen	42/–	per week of 55 hours.
Brassfinishers	9/– to 11/–	per day of 8 hours.
Carpenters	8/8 to 11/–	,, 8 ,,
Carriage-builders	10/– to 11/4	,, 8 ,,
,, trimmers	10/– to 10/8	,, 8 ,,
Cleaners, engine	5/– to 7/–	,, 55 hours per week.
Engine-drivers (locomotive)	11/– to 15/–	,, 55 ,,
,, (stationary)	7/– to 10/–	,, 55 ,,
Fettlers	7/6	,, of 8 hours.
Firemen	8/– to 10/–	,, 8 ,,
Fitters	9/– to 13/–	,, 8 ,,

Foremen..	£240 to £450	per annum, 48 hours per week.
Gangers	9/-	per day of 8 hours.
Guards	9/- to 11/-	,, 55 hours per week.
Labourers	7/- to 7/6	,, of 8 hours.
Machinists	7/6 to 9/8	,, 8 ,,
Moulders	8/6 to 11/2	,, 8 ,,
Painters	8/- to 11/-	,, 8 ,,
Patternmakers	9/- to 12/-	,, 8 ,,
Porters	7/- to 10/-	,, 55 hours per week.
Shunters	8/- to 11/-	,, 55 ,,
Signalmen	7/- to 10/-	,, 55 ,,
Station-masters	£150 to £400	per annum, no fixed time specified.
Waggon builders	9/6 to 10/4	per day of 8 hours.
Watchmen	42/- to 45/-	per week of 55 hours.

Mining.

*Coal—Northern miners, hewing	10/6 to 12/6	per day, 44 hours per week.
*Southern miners, hewing	8/- to 9/-	,, 44 ,,
Boys employed in mines..	3/- to 5/-	,, 44 ,,
Gold	50/-	per week of 44 hours.

Silver-mining, Broken Hill—Mechanics and Surface Hands.

Engineers	10/- to 12/-	per shift of 8 hours.
Masons and bricklayers	10/- to 12/-	,, 8 ,,
Carpenters	10/- to 12/-	,, 8 ,,
Blacksmiths	10/- to 12/-	,, 8 ,,
,, strikers	8/4	,, 8 ,,
Engine-drivers (stationary)..	10/-	,, 8 ,,
,, (hoisting)	10/- to 11/-	,, 8 ,,
Firemen	9/-	,, 8 ,,
,, assistants	8/4	,, 8 ,,
Fitters	10/- to 12/-	,, 8 ,,
Machine men (shop)	9/- to 10/-	,, 8 ,,
Boilermakers	12/-	,, 8 ,,
Riveters	9/- to 10/-	,, 8 ,,
Tinsmiths	10/-	,, 8 ,,

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* Coal-miners working underground are mostly paid piece-work, at the rate of 2/6 to 3/- per ton in the Southern mines, and 4/2 per ton in the Northern.

Saw-mill men	8/4 to 10/–	per shift of 8 hours.
Horse-drivers	8/4	,, ,, exclusive of time occupied in cleaning and harnessing.
Labourers (all)	8/4	per shift of 8 hours.
Boys	3/– to 7/6	,, 8 ,,
Tappers	10/–	,, 8 ,,
Flag-wheelers	9/–	,, 8 ,,
Feeders	10/–	,, 8 ,,
Charge-wheelers	9/–	,, 8 ,,

Underground Hands.

Miners	10/–	per shift of 8 hours. (6 hours on Sunday to constitute a shift work.)
,, (in wet shafts)	10/10	per shift of 8 hours.
Brace and plat men	9/–	,, 8 ,,
Truckers	8/4	,, 8 ,,

Ore-dressing Hands.

Shift-washers	10/–	per shift of 8 hours.
Head-runners	9/–	,, 8 ,,
,, feeders	9/–	,, 8 ,,
Engine-drivers	10/–	,, 8 ,,

Overtime.—All time worked over eight (8) hours per day paid for at the rate of time and a quarter (Sundays not excepted).

Tin	50/–	per week of 44 hours.

omparatively igh rate of ages.

An inspection of the preceding table at once reveals the fact that the labouring classes in this community are far in advance of their fellow-workmen in older countries, in other respects, besides the mere question of better wages. In nearly all departments of labour the daily toil is restricted to eight hours, and though there is no statutory recognition of this time as the limit of a man's labour, it is tacitly acknowledged even by the Governments of the various colonies. Labour organizations and trades' unions are particularly strong in the two provinces of New South Wales and Victoria. Every year a day is set apart in these colonies by the Trades and Labour Councils for the public celebration of the foundation of the eight-hour system ; and the State countenances the demonstration by making the day a public holiday.

ight-hour ystem generally dopted.

Average wages since 1830.

In the following table are given the average wages paid to mechanics, farm labourers, and domestic servants over a series of years—the wages of the two last-mentioned being in addition to food and lodging. The period embraced in this statement covers sixty years—from the days when Australia was a penal settlement down to the present time. The wages of mechanical trades are those of carpenters, bricklayers, masons, wheelwrights, smiths, and in some years of plasterers, and represent, not the wages of any particular trade, but the average of all trades, due allowance being made for the importance of each :—

Average Wages paid during each year since 1830.

Year.	Building Trades. Mechanics.		Farm and other labourers, provided with food and lodging.			Female servants, provided with food and lodging.			Year.	Building Trades. Mechanics.		Farm and other labourers, provided with food and lodging.			Female servants, provided with food and lodging.		
	Per day.		Per annum.			Per annum.				Per day.		Per annum.			Per annum.		
	s.	d.	£	s.	d.	£	s.	d.		s.	d.	£	s.	d.	£	s.	d.
1830	6	6	....			....			1863	9	10	32	10	0	25	0	0
1833	6	6	18	0	0	12	0	0	1864	9	4	29	0	0	25	0	0
1836	7	0	....			....			1865	9	4	29	0	0	23	0	0
1839	7	3	....			....			1866	9	4	29	0	0	23	0	0
1840	8	3	....			....			1867	9	4	29	0	0	23	0	0
1841	8	9	....			....			1868	9	4	29	0	0	28	0	0
1842	8	3	22	0	0	14	0	0	1869	8	6	31	10	0	26	0	0
1843	6	0	22	0	0	12	0	0	1870	9	6	32	10	0	28	0	0
1844	4	0	15	0	0	12	0	0	1871	9	9	28	0	0	23	0	0
1845	4	0	18	0	0	16	0	0	1872	10	9	32	10	0	26	0	0
1846	5	2	20	0	0	16	0	0	1873	10	0	32	10	0	28	0	0
1847	5	6	23	0	0	18	0	0	1874	10	3	32	10	0	28	0	0
1848	5	3	21	0	0	16	0	0	1875	10	3	32	10	0	32	0	0
1849	4	9	17	10	0	12	0	0	1876	10	3	32	10	0	32	0	0
1850	4	6	17	10	0	13	10	0	1877	10	6	40	0	0	32	0	0
1851	6	9	20	0	0	16	0	0	1878	10	6	40	0	0	32	0	0
1852	9	0	27	10	0	17	0	0	1879	10	6	37	10	0	32	0	0
1853	14	3	28	10	0	18	0	0	1880	10	0	37	10	0	32	0	0
1854	17	3	31	10	0	27	10	0	1881	10	0	37	10	0	35	0	0
1855	16	0	35	0	0	23	0	0	1882	11	0	46	0	0	35	0	0
1856	13	0	35	0	0	22	0	0	1883	11	0	46	0	0	35	0	0
1857	13	0	35	0	0	22	10	0	1884	11	0	46	0	0	35	0	0
1858	10	6	40	0	0	25	0	0	1885	11	0	46	0	0	35	0	0
1859	10	0	35	0	0	22	10	0	1886	10	0	46	0	0	35	0	0
1860	10	3	35	0	0	21	10	0	1887	10	0	46	0	0	34	0	0
1861	10	6	35	0	0	22	10	0	1888	10	0	46	0	0	34	0	0
1862	10	9	35	0	0	25	0	0	1889	10	0	46	0	0	34	0	0

In a previous chapter, relating to the cost of living in New South Wales, an analysis is given of the wages paid at different periods, showing the actual amount of money wages, as well as the comparative value, taking into account the greater purchasing power of money at the present time.

GOVERNMENT EMPLOYÉS.

The Government of the Colony is a very considerable factor in the labour market, as it employed no less than 24,709 permanent, and 1,258 temporary officials during 1888–9, including the police and defence forces, and all persons receiving remuneration from the State. These officials may be conveniently divided into seven classes, as in the following summary, which shows the number and salaries of all officers, distinguishing the permanent officers from those temporarily employed :—

Persons employed by the State, 1888–9.

Departments.	Permanent Officers.	Permanent Salaries.	Temporary Officers.	Temporary Salaries.
		£		£
Commercial	14,996	2,112,064	955	73,020
Educational	4,119	507,584	....	....
Police and Defence	2,226	362,207	....	....
Gaols and Asylums	843	102,741	14	1,234
Persons partly paid by the State	1,200	18,000	....	....
All Others	1,325	380,309	289	43,751
Total..	24,709	3,482,905	1,258	118,005

The first division comprises the commercial and revenue yielding departments, the details of which are thus stated :—

Commercial and Revenue-yielding Departments.

Departments.	Permanent Officers.	Permanent Salaries.	Temporary Officers.	Temporary Salaries.
		£		£
Railways	11,091	1,483,000	....	....
Post Offices	2,138	287,712	692	30,288
Lands, survey, sales, &c.	818	162,465	....	....
Water and Sewerage	198	32,000	....	....
Customs	200	49,541	78	11,842
Harbours and Rivers	287	50,660	185	30,890
Marine Board	221	36,975	....	....
Royal Mint	43	9,711	....	....
Total	14,996	2,112,064	955	73,020

The next two clauses—Education, and Police and Defence Forces—have no temporary appointments. The details of those are as follow:—

Education.			Police and Defence.		
Department.	Officers.	Salaries.	Department.	Officers.	Salaries.
		£			£
Public Instruction	4,042	490,342	Police	1,585	288,452
Sydney University	77	17,242	Defences	641	73,755
Total	4,119	507,584	Total	2,226	362,207

The fourth division includes gaols and penal establishments, hospitals and asylums for the insane, &c., as well as reformatories and industrial schools. The particulars of these institutions are thus given:—

Gaols and Asylums.

	Permanent Officers.	Permanent Salaries.	Temporary Officers.	Temporary Salaries.
		£		£
Gaols and Penal Establishments	457	64,799	9	952
Hospitals and Asylums	358	34,439	2	132
Industrial and Reformatory Schools	28	3,503	3	150
Total	843	102,741	14	1,234

Class 5 consists mainly of country postmasters, who are only partly paid by the State. There were 1,200 of these in round numbers, and they received £18,000 from the Government. The last division includes the Governor, ministers of religion in receipt of State pay, judges, and civil servants not included in the above. There were 1,325 permanent officers in this class, with salaries amounting to £380,309; the temporary appointments amounted to 289, with salaries to the sum of £43,751. As further illustrating the important part played by the State as an employer of labour, it may be mentioned that there are usually 5,500 hands employed in the maintenance of public roads, while at times the number has reached 9,000.

Important public works completed.

The construction of the Sydney Water Supply works gave employment for nearly 2,000 men during about five years. These works are now completed, and a few men only are required for maintenance. Railway construction, which had afforded employment for 9,810 men in 1885, has now practically ceased, the decrease being very rapid since the year named, as the following statement shows:—

Year.	Average number of men employed.	Amounts paid to Contractors.
		£
1883	7,278	1,222,000
1884	9,163	1,588,000
1885	9,810	1,677,000
1886	7.470	1,451,000
1887	3,671	862,000
1888	1,606	488,000
1889	504	60,000

Employés of contractors.

It is possible that the number of men employed by contractors for public works was less by 12,000 at the middle of the year 1889 than in 1885. The greater part of this large body of labourers was suddenly thrown out of employment on the completion of the works, and it is scarcely to be wondered at that the labour market was greatly disturbed, especially during 1886 and 1887. To mitigate the distress consequent on the inability of the community to rapidly absorb so much labour, relief works were started by the State and an expenditure of £387,000 incurred thereon. These works have now been either abandoned or completed. A number of railway extensions and other important public works has been recommended by the Parliamentary Standing Committee on Public Works. Some of these have been sanctioned by Parliament, and it is expected that a large field for the employment of labour will soon be opened up.

STEAM POWER.

The power used in the Colony for manufacturing, transporting, and other purposes is equivalent to 133,400 horse-power, or 119 horse-power for every thousand persons, a rate comparing not unfavourably with other countries, as will be seen from the subjoined statement computed from Mulhall's Dictionary of Statistics :—

Country.	Steam power employed.	Per 1,000 of the population.
	H. P. thousands.	
United Kingdom	7,780	214
France	3,513	92
Germany	4,325	42
Russia	1,365	15
Austria	1,280	34
Italy	480	16
Spain	483	29
Belgium	595	102
Holland	216	50
United States	8,152	162
New South Wales	133	119

Value of machinery.

Of the total power employed in the Colony, by far the greater portion is derived from steam. The amount used in manufactories is 25,800 horse-power, or about 19 per cent. of the total employed, and the value of plant and machinery worked by this power is estimated at £5,411,478. The value of land and buildings devoted to works and manufactories may be approximately set down at £8,649,281, which, with the sum set down for plant, would make the total invested in these industries as £14,060,759 for plant, land, and buildings.

The services for which steam power is used are shown in the following table, from which it will be seen that land and water transport absorb 79,200 horse-power, or nearly 60 per cent. of the total horse-power consumed. The information with regard to manufactures and transport is fairly exact, but is only approximate for the other industries :—

Industries employing power.	Horse-power.
Manufactures, &c.	25,800
Land transport	57,200
Water transport	22,000
Agricultural and Pastoral	11,400
Mining	13,000
Other industries	4,000
	133,400

Cost of production in the United States.

The following table, taken from the Report of the U.S. Commissioner for Labour for 1886, shows the distribution of the cost of production of various articles in the United States, distinguishing the amount paid for labour, the cost of materials, and the charge for administration and other expenses. Unfortunately, there are at present no means of compiling similar information with regard to the manufactures of this Colony. It is worthy of notice that whereas in the preparation of food the labor costs only 7·06 per cent. of the total cost, the material comes to 73·54 per cent., or more than ten times as much. With regard to arms and ammunition the position is reversed, for while the material costs but 6·29 per cent., the labor is reckoned at 56·51 per cent., or nine times the price of the material. In the case of musical instruments the cost of labor and the cost of material are very nearly equal, the former being put at 47·88 per cent., and the latter at 43·36 per cent :—

Cost of Production per cent. of Unit Cost.

Nature of Industry.	Labour.	Material.	Administration.	Other.
	per cent.	per cent.	per cent.	per cent.
ltural implements	31·93	46·10	1·52	20·45
and ammunition	56·51	6·29	1·88	35·32
ns' tools	35·52	44·75	......	19·73
and shoes	33·15	58·47	0·57	7·81
ing	28·45	65·82	1·12	4·61
ges and waggons	37·32	51·64	......	11·04
and watches	64·35	20·76	......	14·89
ng...	24·56	69·95	0·37	5·12
g and heating apparatus	43·50	38·17	1·00	17·33
reparation	7·06	73·54	......	19·40
	47·52	32·69	0·54	19·25
r	17·98	74·19	......	7·83
s and beverages	14·56	63·54	......	21·90
r	25·69	69·62	......	4·69
nes and machinery	37·86	60·06	1·56	0·52
and metallic goods	22·63	66·99	1·62	8·76
l instruments	47·88	43·36	0·71	8·05
	14·49	67·59	1·91	16·01
o	33·79	51·10	0·11	15·00
n goods	23·16	65·07	0·60	11·17

TRADE UNIONS.

Legislation on Trade Unions.

subject of Trade Unionism has been dealt with by legislation ly one instance in this Colony—the Trade Union Act of This measure commences by enacting that the purpose y trade union shall not be deemed to be unlawful, so as to r its members liable for conspiracy or otherwise, merely se it is in restraint of trade; nor for such a reason shall any nent be made void or voidable. It is declared that nothing Act shall enable any Court to entertain any legal proceeding pect to agreements between the members themselves of a union with reference to the terms upon which they shall ct business, employ, or be employed, or for the recovery bscriptions, penalties, or applications of the funds to certain ed purposes. At the same time the Act is not to be deemed ke such agreements unlawful. Neither the Friendly Societies or the Companies Act are to apply to trade unions, nor can be registered under those Acts. Provision is made, however, e registration of such trade unions under the present Act,

Registration of Trade Unions

provided always that if one of the purposes of such trade union be unlawful the registration shall be void. The Registrar of Friendly Societies is made registrar of trade unions, and provisions are made for the appointment of trustees, treasurers, &c., for the establishment of rules, the preparation of annual returns for dissolution or amalgamation, change of name, and other matters.

Definition of Trade Unions.

The term "Trade Union" is defined to mean "any combination, whether temporary or permanent, for regulating the relations between workmen and employers, or between workmen and workmen, or between employer and employers, for imposing restrictive conditions on the conduct of any trade or business, whether such combination would or would not, if this Act had not been passed, have been deemed to have been an unlawful combination by reason of some one or more of its purposes being in restraint of trade." Few of the Trade Unions have complied with the provisions of the Act relative to returns, consequently particulars in regard to their membership cannot be given with any accuracy. At the middle of 1890 the number of Societies registered was ninety-five.

IMPORTATION OF LABOUR.

Since the cessation of assisted immigration by the State there has been very little labour imported by the capitalists and manufacturers of the Colony; in fact almost all the artisans and labourers who have arrived here within the last few years have been those who have left the other Australasian Colonies, in the hope of improving their position in New South Wales. The question of the importation of labour has not been largely dealt with by legislation in this Colony.

Agreements Validating Act

The chief enactment on the subject is the Agreements Validating Act, 39 Victoria, No. 29, which provides that agreements made in any place beyond the Colony, for a period of service not exceeding two years, shall be as binding and effectual as though they had been entered into within the Colony, provided that the contract or agreement shall have been made and subscribed in the presence of some officer duly authorised in that behalf by the Governor and Executive Council of New South Wales.

PATENTS.

Liberality of the law.

The law relating to the registration of inventions and improvements has been in force since 1855, but it is only within recent years that the provisions of the Act have been used to any great extent. In 1887 the law was amended, and the fees reduced to the nominal sum of £5 for Letters Patent, and £2 for a certificate of provisional protection, which latter may, if application be made within twelve months from its granting, be converted into a patent on the payment of an additional £3. The result has been that the business of the Patent Office has greatly increased. The inventions registered in 1889 were for the most part not local but foreign, and this feature has marked the operations of the Patent Office since its inception. The following is the business transacted since 1855:—

Letters of Registration and Assignments thereof for Inventions or Improvements registered.

Year.	No. of Registrations.			Year.	No. of Registrations.		
	Patents.	Assignments.	Total.		Patents.	Assignments.	Total.
1855	......	......	3	1873	43	6	49
1856	......	......	1	1874	39	21	60
1857	......	......	1	1875	34	16	50
1858	......	......	10	1876	44	18	62
1859	......	......	11	1877	62	27	89
1860	......	......	10	1878	45	19	64
1861	......	......	13	1879	57	16	73
1862	......	......	14	1880	89	23	112
1863	18	4	22	1881	113	13	126
1864	15	2	17	1882	129	21	150
1865	15	5	20	1883	149	24	173
1866	20	5	25	1884	183	29	212
1867	20	4	24	1885	161	27	188
1868	21	2	23	1886	203	31	234
1869	27	5	32	1887	*545	44	589
1870	32	4	36	1888	*742	50	792
1871	27	5	32	1889	*796	84	880
1872	43	5	48				

* Provisional protection and letters patent.

Operations of Act of 1887.

The new law came into force on 31st July, in 1887. The number of certificates of Provisional Protection and Letters

Patent applied for during 1889 was 247 and 549 respectively, while 84 assignments were registered during the same period. The countries from which applications for Patents in New South Wales were received, were as follows:—

Great Britain	137	India	1
Germany	9	Canada	1
France	5	Cape of Good Hope	1
New Caledonia	1	New South Wales	344
Sweden	3	New Zealand	27
Austria	4	Queensland	16
Russia	2	South Australia	16
United States	66	Victoria	163
Hawaiian Islands	6		

Making a total of 796 applications, over 43 per cent. of which were made by persons residing in the Colony, though not necessarily for inventions perfected in New South Wales.

COPYRIGHT.

The Copyright Act in force in this Colony was passed on 14th May, 1879, and became law on 1st July, 1879. The Act is divided into four parts, dealing with the following subjects:— Part I. Literary, Dramatic, and Musical Works; Part II. Fine Arts; Part III. Designs; Part IV. Miscellaneous Provisions.

Registration of books, &c.

Part I provides for the registration of copyright in books or publications, as understood in the widest sense of the term, and for every new edition containing any alterations in the matter; and also for the registration of playright, or the right of representing or performing dramatic or musical productions, whether previously printed and published or not. The copyright granted in this Colony applies only to works first published here, and commences to run on first publication, representation, or performance; but no remedy can be obtained or legal proceedings taken for anything done before registration. The term of protection is 42 years, or the life of the author plus 7 years, whichever is the longer period. Nothing blasphemous, seditious or libellous is entitled to be registered, nor any mere advertisement. Literary works for which registration is sought must be submitted to the Registrar in a complete state as published ; but dramatic or musical works may be in manuscript, and will be returned. A best copy of the first and each subsequent edition of every printed "book" published in the Colony must be delivered within two months of publication to the respective Librarians of the Free Public Library and of the Library of the University of Sydney. The penalty for default in delivering Library copies is the forfeiture of the value of the book and a sum not exceeding £10. Library copies must be delivered whether the book is registered or not. Lectures receive protection without being registered, on compliance with the requirements of the Act ; but lectures are public property if delivered in any University, Public School, or College, or on any public foundation, or by any individual, by virtue of, or according to any gift, endowment, or foundation. The registration fee is 5s. and the fee for certificate, if one be required, 3s.

Period of copyright.

Part II gives copyright in paintings, drawings, works of sculpture, and engravings, including the design thereof, for 14 years, and in photography and the negatives thereof, for 3 years. The fees to be paid are:—1s. for photographs and chromographic cards, 5s. for other subjects, and 3s. for certificates. Copyright in a work of fine art when not executed under commission does not necessarily either follow the work or remain with the artist, but ceases to exist, unless it has been secured by agreement between the parties at or before the time of the sale of the original. The work must be made in the Colony, and be new and original to entitle it to copyright.

Copyright in paintings, &c.

Part III. Under this part of the Act protection can be obtained for new and original designs, not previously published in the Colony or elsewhere, such designs being for articles of manufacture

Copyright in designs.

and works of art, whether intended for works of utility, ornament, or otherwise. The protection does not extend to the article itself but only to the design thereof; consequently it does not apply to any mechanical action, principle, contrivance, application, or adaptation, or to the material of which the article is composed. The articles which are capable of being registered are divided by the Act into fourteen classes, two years protection being assigned to some, and three years to others. The registration fee is ten shillings, and registered designs must bear a registration mark.

Part IV contains general provisions, and amongst other matters declares copyright to be personal property, assignable at law, and transmissible by bequest, and subject in case of intestacy to the same law of distribution as other personal property.

International copyright.

The Copyright Law of England is comprised chiefly in some fourteen Acts of Parliament, of an unusually obscure and conflicting character, and extensively elaborated by judicial decisions. Under the "International Copyright Act, 1886," 49 & 50 Vic. c. 33, the greater part of this body of law, together with the terms of the Copyright Convention of Berne, is made reciprocally applicable to Great Britain and each of its Dependencies, and to the countries that are parties to the Convention, with their Colonies, namely:—Germany, Spain, France, Great Britain, Häiti, Honduras, Italy, The Netherlands, Sweden and Norway, Switzerland, and Tunis,—previous copyright treaties being for the most part abrogated.

Effect of international copyright.

Under this arrangement, copyright, when registered in the country of origin, is covered by the local laws within that country, and by the Imperial Laws and the convention elsewhere. Thus, in order to secure international and intercolonial protection for a copyright registered in this Colony, it is only necessary to obtain an International Certificate executed by the Registrar and confirmed by the Minister of Justice, and this may be used anywhere within the province of the Union.

The total number of registrations of copyright effected has been :—

	During 1889.	From the passing of the Act in 1879 to 31st December, 1889.
PART I. *Literature* :—		
Printing and publishing right—		
Books	28	278
Periodicals	15	149
Music	....	33
Playright—		
Drama	....	48
Music...	....	4
Total	43	512
PART II. *Fine Arts* :—		
Painting	....	2
Drawing	2	33
Sculpture	1	7
Engraving	6	119
Photography	15	514
Total	24	675
PART III. *Designs, &c.*	9	326
Grand Total	76	1,513

PART XVI.

Internal Communication.

Bass's attempt to cross the mountain range.

Blaxland, Wentworth, and Lawson discover a passage.

FOR many years, settlement was restricted to the narrow belt of land shut in between the Blue Mountains and the sea. Several main roads were formed through this country within a few years after the first settlement of the Colony. These roads connected the infant towns of Parramatta, Liverpool, Windsor, and Penrith with the metropolis, and were constructed entirely by prison labour. The abrupt wall of sandstone rising on the further side of the Nepean barred all access to the interior of the country. As early as the year 1796 George Bass made an attempt to cross the mountain range, and returned after an unsuccessful journey, reporting that it was impossible to find a passage even for a person on foot. In 1813, a protracted season of drought, attended by considerable losses amongst the stock, brought home very clearly to the settlers the conviction that the future of the Colony entirely depended upon the discovery of an extension of grazing land, beyond the narrow limits within which they were then hemmed. In the month of May of the year named, Gregory Blaxland, W. C. Wentworth, and Lieutenant Lawson once more attempted to find a passage across the mountains. After meeting with difficulties which seem astonishing enough to the present generation, who have seen a railway carried over the same track, by which Bathurst may be reached in a few hours, these gentlemen succeeded in opening a way—sometimes by creeping through dense forests, at others by scaling tremendous precipices—to the vast plains lying west of the great Cordillera of Australia. They returned on the 6th June, and shortly afterwards Governor Macquarie sent a party of surveyors, under Mr. Evans, to report on the practicability of making a road, and the report being favourable, the construction of the great western highway was at once commenced, the work being performed by gangs of prisoners. The track thus made formed a continuation of the great Western Road, from Penrith, and it was completed as far as Bathurst by the 21st January, 1815.

Construction of the Great Western Road.

Impetus to road-making

The discovery of the Bathurst Plains, and the completion of the mountain road, gave so great an impetus to settlement that it was found impossible to keep pace in the matter of roads with the demands of the settlers. The Government, therefore, contented itself with maintaining the roads already constructed, and extending them in the direction of the principal centres of settlement. For many years these main roads were the only ones which received attention. This would perhaps have been otherwise had the progress of settlement subsequent to 1850 been similar to that of the years previous to that date. Such, however, was not the case. The gold discovery entirely altered the circumstances of the Colony, and during the period of excitement and change which followed that remarkable event, so many new roads were opened, and so large an increase in traffic occurred, that the general condition of the public highways was by no means good. The Roads Department was formed as far back as 1857, and, although good service was done by the road pioneers before that date, the modern system of roadmaking may be said to have begun with the creation of the department. It was not, however, until 1864 that the whole of the roads, both main and subordinate, received attention at the hands of the State.

The principal main roads of the Colony are:—

Principal main roads.

Northern Road—length, 405 miles, from Morpeth to Maryland, New England.

Western Road—length, 338 miles, from Sydney to Warren through Bathurst, Orange, and many other important townships; thence prolonged to the Darling, at Bourke, by a line 175 miles in length.

Southern Road—length, 385 miles, from Sydney to Albury. This road was, before the construction of the railway, the great highway between Sydney and Melbourne.

South Coast Road—length, 250 miles. This road, after leaving Campbelltown, ascends the coast range, along the top of which it runs as far as Coal Cliff. It then traverses the Illawarra district, parallel to the coast, and passes through the rich lands watered by the Shoalhaven, Clyde, and Moruya, as far as Eden, at the southern limit of the Colony.

Importance of main roads less than formerly.

None of these roads have now the importance they formerly possessed. The railways of the Colony for the most part follow the direction of the main roads, and attract to themselves nearly all the through traffic. The tendency now is to make the roads act as feeders to the railway, by converging the traffic from outlying districts towards convenient stations along the line.

Government expenditure on public roads.

The expenditure by the Government upon the different roads varies considerably according to their importance. All roads maintained by the Government fall under six classes. On first-class roads the Government expends yearly an amount equal to £50 per mile; on second-class roads, £25 per mile; third-class, £15 per mile; fourth-class, £10 per mile; fifth-class, £7 per mile; and on sixth-class roads, £5 per mile.

Supervision and maintenance of roads.

The network of roads spread over the face of the Colony is divided, for purposes of maintenance, into road districts and road trusts. There are fifty-four road districts, managed locally by superintendents, who have the greater part of the road communication of the Colony outside the municipal boundaries, under their care. The road trusts number 400, and have the supervision of certain grants for the maintenance of roads in districts chiefly of minor importance. There are, however, certain important roads in the vicinity of the metropolis governed by trusts. The length of roads in charge of superintendents or road engineers is approximately 24,000 miles, while about 4,000 miles are under road trusts. The length of road which has been formed, metalled, and gravelled is not less than 6,500 miles. There are also 4,500 miles of roadway not indeed metalled, but which have been drained, and on which all necessary culverts have been constructed. Four thousand miles have also been cleared and partly graded, while 7,600 miles of road wind their way through the forests of the interior, chiefly along the lines marked out by the cart-wheels of the foremost settlers, and form, in dry weather, adequate means of communication for the settlers, although it must be acknowledged that in seasons of rain these roads are not unfrequently impassable. Besides the roads mentioned above, there are 1,400 miles of mountain passes. Many of the passes presented the most formidable difficulties, and their construction reflects great credit upon the engineering skill of the officer who for so many years designed and supervised the construction and maintenance of the roads and bridges of the Colony.

Length of roads.

Many of the earliest bridges erected in the Colony were of stone, and are still existing. Those erected in the period following the extension of settlement to the interior were chiefly of timber, and have since been replaced, after a life of about twenty-five years. Nearly all the large bridges of recent erection are of iron or steel, and some of them have been erected under engineering conditions almost unique, owing to the peculiarity of the river flow in some parts of the country. Including the large culverts, which are in reality small bridges, there are altogether 10,000 bridges, covering a length of 64 miles, while there are also over 54 miles of minor culverts, formed of earthenware piping, from 12 to 24 inches in diameter. Where the traffic has not warranted their construction, or where local circumstances have rendered them unavoidable, punts or ferries have been used instead of bridges. There are 92 punts, 7 of which are propelled by steam, and 85 by hand gear, along wire ropes. The number of boat ferries is 57.

Bridges and culverts.

Punts and ferries.

The use of roads as the main arteries along which traffic from the metropolis to the interior flows has been superseded by the

Value of roads and bridges.

railways; but the roads remain not only the sole means of communication throughout a large part of the interior, but most valuable feeders to the railway system of the country. No revenue is directly derived from roads, but the indirect advantages to the country have been very great, and after the lands and the railways they form the largest item of national property. It is estimated that £13,248,683 have been expended on roads and bridges since 1857, and the present value to the State, allowing for depreciation, cannot be less than £10,000,000. Their indirect value cannot be calculated, but as an instance of the change brought about by the system of road construction, it may be mentioned that, after the organization of the Roads Department on its present basis, the cost of carriage of goods by road and the time of transit was reduced by more than one-half, as will appear from the following statement:—

Indirect value.

Main Roads.	Distance.	Carriage by Road, 1857.		Carriage by Road, 1864.	
		Days of transit.	Cost per ton.	Days of transit.	Cost per ton.
	Miles.		£ s. d.		£ s. d.
Sydney to Goulburn	134	17½	12 5 0	7½	3 15 0
,, Bathurst.........	145	23½	15 10 0	11	6 10 0
Newcastle to Murrurundi..	119	21	9 0 0	8	6 10 0

Cost of carrying goods by road and rail.

The progress exhibited in these seven years is very great, and it is possible that the cost of carriage on roads was still further reduced before they were superseded in importance by the railways of the Colony. The average cost of carrying 1 ton of goods 1 mile in the year 1864 was about 7½d.; in the year 1872, the first for which the figures are available, the average cost per mile of carriage on railways was 3·61d. per ton, since which year the rates have been as follows:—

1872............	3·61d.	1880........ ..	2·32d.
1873	3·28d.	1881..........	2·29d.
1874.....	3·00d.	1882............	2·13d.
1875............	3·07d.	1883.......	1·96d.
1876..	2·82d.	1884......... ..	1·90d.
1877............	2·68d.	1885............	1·86d.
1878	2·44d.	1886............	1·81d.
1879............	2·25d.	1887............	1·81d.

Saving effected by railways.

The returns, as made out by the Commissioners since 1887, do not show the cost of carriage per ton per mile, but from the reductions that have been made in the rates, the figures must be even lower than those given above. Still, the saving shown in the table is enormous, and although the exact amount of what the saving to the Colony by the extension of the railways to the interior has actually been must remain a matter of speculation, the figures just given may be taken as indicating how large and beneficial an effect railways have upon production, and how greatly they must benefit the general consumer.

Expenditure on roads.

The total expenditure on account of roads of all classes during 1889 was £663,759; this sum, however, includes the expenses of the department, expenditure on punt approaches, and similar works incidental to the road traffic of the country:—

Expenditure for Construction and Maintenance of Roads and Bridges.

Year.	Expenditure by Roads Department.	Expenditure by Trustees.	Total.
	£	£	£
1878	497,032	24,280	521,312
1879	649,774	25,428	675,202
1880	614,709	28,800	643,509
1881	484,567	23,186	507,753
1882	577,212	24,722	601,934
1883	613,847	24,938	638,785
1884	750,584	27,722	778,300
1885	800,962	24,404	825,366
1886	628,379	28,414	656,793
1887	721,994	45,433	767,427
1888	706,006	30,000	736,006
1889	632,398	31,361	663,759

Municipal roads and streets.

Besides the roads maintained by the Government there existed, at the close of 1889, 5,790 miles of roads and streets belonging to, and maintained by, the municipalities of the Colony. Of these roads, 2,799 miles were regularly formed and metalled, while 2,991 miles were not formed. The value of these roads is estimated at £3,591,891; but this estimate must be looked upon as an approximation only, since the information obtained from the various municipalities is far from complete.

RAILWAYS.

The first attempt to introduce into New South Wales the blessings of railway communication, which has so revolutionised the commerce of the older parts of the world, was made in 1846. On the 26th August of that year a meeting was held in Sydney at which it was decided to survey a line to connect the metropolis with the city of Goulburn. Two years afterwards, on 11th September, 1848, the Sydney Tramroad and Railway Company was formed, with a capital of £100,000, having for its object the construction of railways to Parramatta and Liverpool, with a possible extension, in course of time, to Bathurst and Goulburn.

The Sydney Tramroad and Railway Company.

No time was lost in breaking ground, and on the 3rd July, 1850, the Hon. Mrs. Keith Stewart, daughter of the Governor, Sir Charles Fitzroy, turned the first sod of the first railway constructed in the Australian Colonies.

Railways transferred to State.

The affairs of the Sydney Tramroad and Railway Company did not, however, prosper as the promoters had expected, and it was found necessary to transfer the property of the company to the Government of the Colony. Meanwhile another company had been started in 1853, with the object of constructing a railway from the city of Newcastle to Maitland. It met with no more success than the Sydney company, and shared the same fate. On the Government taking possession of the property of the defunct companies, the works were carried on with more vigour, and on the 26th of September, 1855, the line from Sydney to Parramatta was declared open for public traffic, and the extension to Goulburn was opened on the 27th May, 1869.

The first line from Sydney to Parramatta.

The progress of railway construction during the twenty years which followed the opening of the first line was very slow, for in 1875 the length of the lines in operation had only reached 437 miles, or at the rate of 21·85 miles per year. Not a single mile of railway was opened during 1865 and 1866; but in 1867 the construction of these great commercial highways received a new

Progress of railway construction.

impetus, and continued to increase yearly until 1872, when it stood still for another period of two years, during which only 5 miles of railway were thrown open to traffic. In 1875 34 miles were opened, and from the succeeding year till 1888 greater activity prevailed 1,599 miles having been constructed, or a yearly average of 123 miles, but this impetus received a check during the two succeeding years, declining to 11 miles open for that ending June 30th, 1889. The following table shows the number of miles of line opened in each year, as well as the total length in operation :—

Length of Railway Line opened for Traffic during each Year.

Year.	Opened during the year.	Total opened.	Year.	Opened during the year.	Total opened
	Miles.	Miles.		Miles.	Miles.
1855	14	14	1873	5	403
1856	9	23	1874	nil.	403
1857	17	40	1875	34	437
1858	15	55	1876	72	509
1859	nil.	55	1877	89	598
1860	15	70	1878	90½	688½
1861	3	73	1879	46	734½
1862	24	97	1880	115	849½
1863	27	124	1881	146	995½
1864	19	143	1882	273	1,268½
1865	nil.	143	1883	52	1,320½
1866	nil.	143	1884	298	1,618½
1867	61	204	1885	114	1,732½
1868	43	247	1886	157	1,889½
1869	71	318	1887	146½	2,036
1870	21	339	1888	89	2,125
1871	19	358	*1889	46	2,171
1872	40	398	*1890	11	2,182

* Year ended June 30.

Extension of railway facilities.

The progress of the accommodation afforded by the State Railways of the Colony can be fairly gauged by comparing the number of persons at different periods to each mile of line open for traffic, and the number of train miles per inhabitants. Thus in 1878, there were 977 persons to each mile of line, but by the middle of the year 1890 the work of construction was so much in excess of the increase of population that the proportion per mile had fallen to 514 persons, so that the facilities afforded by the railways are now nearly twice as great as in the year first named. The increase in the number of train miles per inhabitant was very rapid from 1878 to 1883, rising from 4·05 to 7·11, which appears to be as high as the traffic of the Colony under present circumstances can be expected to require for its effective working, and has only been exceeded in 1884 and last year. The following statement illustrates the extension of railway facilities during each year since 1878:—

Population to each mile of Railway and train miles per inhabitants on Government Lines.

Year.	Population to each mile of line.	Number of train miles run.	Number of train miles run per head of Population.
1878	977	2,655,176	4·05
1879	967	2,932,463	4·24
1880	874	3,239,472	4·46
1881	783	3,923,929	5·16
1882	639	4,851,127	6·10
1883	649	5,937,261	7·11
1884	559	6,403,041	7·26
1885	553	6,638,399	7·10
1886	530	6,479,265	6·61
1887	513	6,472,017	6·33
1888	511	7,333,920	6·89
1889	517	7,802,259	6·95
*1890	514	8,008,826	7·14

* Year ended June 30.

Private lines.

Two private lines of railway, 45 and 36 miles in length respecively, were in operation during 1889, connecting the important owns of Moama and Deniliquin, and Silverton and Broken Hill. The first-named line virtually forms an extension of the Victorian ailway system from Melbourne to Echuca. Some facts relatng to the traffic of these lines will be found in another place. The following figures relate only to lines under Government control.

Capital expended.

The capital expended on all lines at the close of June, 1890, amounted to £30,555,123. The amounts expended on lines opened during each year from the commencement of the railway system will be found in the following table :—

Capital expended on Lines open to Traffic.

Year.	Capital expended on lines open.	Year.	Capital expended on lines open.
	£		£
1855	515,347	1873	6,739,918
1856	683,217	1874	6,844,546
1857	1,023,838	1875	7,245,379
1858	1,231,867	1876	7,990,601
1859	1,278,416	1877	8,883,177
1860	1,422,672	1878	9,784,645
1861	1,536,032	1879	10,406,495
1862	1,907,807	1880	11,778,819
1863	2,466,950	1881	13,301,597
1864	2,631,790	1882	15,843,616
1865	2,746,373	1883	16,905,014
1866	2,786,094	1884	20,080.138
1867	3,282,320	1885	21,831,276
1868	4,060,950	1886	24,079,555
1869	4,681,329	1887	26,554,357
1870	5,566,092	1888	26,630,664
1871	5,887,258	*1889	29,839,167
1872	6,388,727	*1890	30,555,123

* Year ended June 30.

Length of railway lines.

The Colony of New South Wales stands in a good position among the Australasian Colonies in regard to railway development, as will be seen from the following table:—

Length of Line open for Traffic in Australasian Colonies—31st December, 1889.

	Miles.
New South Wales	2,252
Victoria	2,341
Queensland	2,064½
New Zealand	1,912
South Australia	1,774
Western Australia	499
Tasmania	374½
Total	11,217

In the case of most of the colonies the above figures include the length of private lines in operation.

Railway systems of Colony—Southern lines.

The railway system of the Colony is divided into three distinct branches, each representing a system of its own. The southern system, including the principal line in the Colony, branches at Junee, and places the important district of Riverina, as far as the town of Hay in one direction, and Jerilderie in another, in direct communication with Sydney—from which they are distant 454 and 412 miles respectively. From several other points of the line branches connecting other important districts with the metropolis have been opened for traffic, or are in course of construction. At Cootamundra, a line has been laid down, which now reaches Gundagai, whilst from Murrumburrah a line has been constructed which connects Blayney on the western line with the southern and western systems of New South Wales Railways. This practically enables direct railway communication to be made between Melbourne and Bourke, the capital of Central Australia; and the branch line has been found of much benefit in allowing the direct shipment of stock from the pasture grounds to the Victorian markets. Nearer Sydney the important town of Goulburn will be the centre of a system of branch lines, one of which, that from Goulburn to Cooma, is already built, and brings the rich pastoral district of Monaro in direct communication with Sydney. It is also proposed to connect Goulburn with the township of Crookwell, the centre of a large agricultural district 25 miles distant. Further south the construction of a branch line from Cootamundra to Temora, and a branch from Culcairn to Corowa, on the Murray will shortly be commenced.

Brisbane, Sydney, Melbourne, and Adelaide connected by rail.

The southern main line is the most important of the railway lines in the Colony, as it passes through the richest and most thickly populated districts, and places the four great capitals of Australia—Brisbane, Sydney, Melbourne, and Adelaide—in direct communication with each other. It was not until 1883 that this line was actually open for traffic, the railway bridge across the Murray River, which flows between Wodonga, the Victorian terminus, and Albury, the terminus of the southern line of New South Wales, having been completed in that year. The traffic, both of passengers and goods, on the southern system generally, is very extensive, and arrangements for the regular carriage of mails between the two great cities enable letters to be delivered in less than twenty hours. The time occupied by the express trains on the journey is only eighteen hours, and the ordinary passenger trains running daily cover the distance (576 miles) between Sydney and Melbourne in twenty-four hours and a half. Sleeping cars are attached to these trains, on the New South Wales side, and the comfort of travellers is assured by the introduction of the most modern improvements in the construction and fitting up of the railway carriages. Since the completion of the railway from Melbourne to Adelaide, a distance of 508½ miles, European mails are landed at the latter port and forwarded overland to all parts of Victoria, New South Wales, and Queensland.

Rapid transit of mails.

Western system.

The western system of railways extends from Sydney in the direction of the Blue Mountains, of which it reaches the upper levels a little above Emu Plains, by a system of zig-zag lines which enables the locomotive to drag its heavy freight up the abrupt eastern slope of the mountains. The line runs along the top of the range, until it descends into the valley below Mount Clarence, by another and more important zig-zag, the construction of which is a triumph of engineering skill. In its course between these two zig-zags the line passes through magnificent mountain scenery of a character peculiar to this part of the world, and none the less remarkable. Leaving the mountains, the Western Railway, after throwing out a branch from Wallerawang to Mudgee, enters the Bathurst Plains, and connects the rich agricultural lands of the Bathurst, Orange, and Wellington districts with the metropolis. Beyond Dubbo it enters the pastoral country, and reaches the Darling at Bourke, 503 miles from Sydney. At Orange a branch line, a few miles in length, connects that town with Molong, and it has been proposed to make Orange the junction of a line extending through the western pastoral districts, as far as the town of Wilcannia, on the Darling. Further up, at Nyngan, 377 miles from Sydney, a line is soon to be commenced to connect the important mining district of Cobar with Sydney, affording at the same time rapid and sure means of communication with the pastoral country, of which Cobar is also the centre. The western railway system also includes a short line from Blacktown to the Hawkesbury, *viâ* the towns of Windsor and Richmond.

Projected branch lines.

Northern system.

The northern system originally had its terminus at Newcastle, but a connecting line between Homebush and Waratah has been constructed, which makes Sydney the head of the whole of the railway systems of the Colony. The Hawkesbury River has been crossed by an iron bridge, 2,896 feet long, in seven spans, the iron superstructure of which cost £327,000. This connecting line allows direct communication between Adelaide, Melbourne, Sydney, and Brisbane, a distance from end to end of 1,808 miles, and has been found of great value to those requiring quick transit, and for the carriage of postal matter. It facilitates, moreover, the active business life of the colonies, and will be of national importance should at any time strategic movements require to be made in connection with military operations.

Hawkesbury River Bridge.

The northern line runs *viâ* Newcastle and the great coal centres, through the rich agricultural district of the Hunter Valley, to the important part of the Colony known as New England, passing through some of the largest inland towns in New South Wales, such as Maitland, until lately the fourth town in the Colony in point of population, being surpassed only by the city of Newcastle and the town of Parramatta before Broken Hill attained its present development. The country traversed by this line north of Newcastle is extremely fertile. As the line ascends further north it passes through a rich pastoral and agricultural territory, and some important townships are reached, viz., Tamworth, Armidale, Glen Innes, and Tenterfield.

Projected branch lines.

The northern system also comprises a branch from Werris Creek to Narrabri, which it has been proposed to extend as far as Moree, in the north-west, and the Darling in the west, thus placing the Namoi and Gwydir pastoral districts in direct communication with the ports of Newcastle and Sydney. The construction of a branch from Muswellbrook to Cassilis is also contemplated. In the New England District a line has been long projected, which would connect the town of Glen Innes with that of Inverell, on one side, and with the city of Grafton, on the Clarence, on the other. It is now proposed to construct a portion of the North Coast Railway, from the Tweed River to Lismore, on the Richmond.

Circular Quay extension.

The question of the extension, through the heart of the metropolis, of the railway system—which at present has its terminus at some little distance from the business centre of the city--to the Circular Quay is again under consideration, the Government having appointed a Royal Commission to inquire into the respective merits of the many schemes that have from time to time been proposed. A short branch line has been constructed, which connects through the line from Homebush to Waratah, at Pearce's Corner, the northern districts of the Colony with the north shore of Port Jackson. Proposals have been made from time to time to bridge the Harbour, or tunnel under it, and thus allow direct communication by rail between the suburbs on the north and the city on the south shore.

Besides the lines and branches included in the three systems above described, another line, entirely independent of them, has

Illawarra Line. been constructed, connecting the metropolis with the coastal district of Illawarra, which is rich alike in coal and the produce of agriculture. The present terminus of this line is at the thriving town of Kiama; but it is proposed to continue the line to Nowra, and thence eventually to Jervis Bay, closely following the coast line. A proposal has also been made for the construction of a line from the port of Eden at Twofold Bay, in the south of the Colony, to the township of Bega, in the centre of a rich agricultural district; but this is at present in abeyance.

Growth of traffic.

The contrast between the present condition of the New South Wales railways and their humble beginning in 1855 is a remarkable one. In 1856, the first year which can be fairly taken for purposes of comparison, the number of passenger journeys on the railways was only 350,724, whilst in the year ended June 30, 1890, the number was 17,071,945, or nearly 49 times greater; but the tonnage of goods carried in each of these years represents a very much larger increase, having grown from 2,469 tons to 3,680,718, or over 1,490 times greater than in the first full year of railway operations. In the earlier portion of the period of thirty-four years, which the above figures illustrate, it would seem that the larger part of the railway earnings was obtained from the passenger traffic, and this was no doubt due to the fact that the first railways were almost entirely suburban. It was not until the line crossed the mountains and opened up the far interior that the proportions changed, and the goods traffic became the principal source of revenue of the railways. This change began to take place in 1867, in which year the construction of railways, after being for two years at a standstill, received a sudden impetus, 61 miles of line having been opened in the year named, as against 19 miles only in the previous period of three years. Since 1867 the proportion of earnings from goods traffic has constantly increased much faster than that obtained from passengers, and for the year ended June 30, 1890, the revenue obtained from goods was £1,573,295, while £1,059,791 was the sum obtained from passengers.

Goods principal source of revenue.

Earnings in different year compared.

The comparison between the earnings of the period previous to 1871—when the net result every year represented only a small portion of the interest due on the capital expended in the construction of the lines—and the subsequent period affords matter for satisfaction. The figures for 1886 and 1887 show a falling off from those of fourteen previous years; but it should be borne in mind in comparing these two years with the excellent results exhibited during the period from 1874 to 1884, when considerably over 4 per cent. was realized, that the fall in receipts is due in a great measure to the previous years of drought, and also to the uncertainty attaching to the land laws which had recently been materially altered. It may also be added that, from the end of 1883 to the close of 1885, 412 miles of railway were opened, chiefly through districts which are more sparsely populated, and in times of drought suffer more than any others; while in years of abundance the rivers of the western country enter into direct and damaging competition with any other means of carriage. Besides this, the statistics of railway returns in all the parts of the world show that few lines, except perhaps suburban ones, return, during the first few years after their opening, anything like a profit. In England a period of seven years has been allowed by good authorities for a line to develop traffic; and if such is the fact in more densely populated countries, whose resources are more developed than is the case in New South Wales, the result illustrated by the figures occasions no surprise.

Period required to develop traffic.

Loss on new lines.

The small receipts from the new lines opened from 1884 to 1887 and the cost of working necessarily lowered the general percentage of profits earned in those years. This is not an isolated experience in the history of railway management in this Colony. A glance at the table of net earnings and interest on capital expended upon railways, which will be found on page , will show that during the period from 1870 to 1876, in which the percentage of new lines yearly constructed was very small, being only 191 miles during the whole period of seven years, or about 27½ miles per year, the railway profits show a constant and regular increase from 1·817

Lines in pastoral country less costly.

In considering these figures in detail it is interesting to note the comparative low cost per mile of the extensions through the pastoral country from Junee to Hay, and from Werris Creek to Narrabri, which average only £5,642 and £5,739 per mile respectively, or less than half the general average cost of other lines. The Campbelltown-Camden and the Kogarah-Sans Souci lines were constructed cheaply for tram-lines. The cost of the light lines, which will shortly be in course of construction through a country of similar formation, should not reach even the figures just stated.

Cost in other countries.

The cost of railway construction in some of the principal countries of the world, for which figures are available, is given hereunder. The figures include the whole expense of equipping the lines for traffic, and are brought down to the latest dates available:—

Countries.	Cost per Mile open for Traffic.
	£
United Kingdom	42,486
Belgium	36,508
France	27,704
Germany	21,236
Russia in Europe	20,000
India	13,202
Canada	11,551
Cape Colony	9,217
New South Wales	14,003
Victoria	13,456
New Zealand	7,617
Queensland	6,906
South Australia	6,452
Tasmania	8,020

EARNINGS AND WORKING EXPENSES.

earnings orking es.

The gross amount of revenue derived from all sources during the year ended 30th June, 1890, was £2,633,086, a larger sum than was obtained in any previous year. The cost of working the railways reached £1,665,835, and the net earnings were £967,251, or 36·7 per cent. of the total earnings. The following table gives the gross earnings and total working expenses with the proportion per cent. of the expenditure to the receipts.

Gross Earnings and Working Expenses, and Percentage of Working Expenses to Gross Earnings.

Year.	Gross Earnings.	Working Expenses.	Percentage of working expenses to gross earnings.	Year.	Gross Earnings.	Working Expenses.	Percentage of working expenses to gross earnings.
	£	£	per cent.		£	£	per cent.
1855	9,249	5,959	64·43	1873	484,236	238,035	49·16
1856	32,283	21,788	67·49	1874	536,575	257,703	48·03
1857	43,387	31,338	72·23	1875	614,648	296,174	48·18
1858	62,309	43,928	70·50	1876	693,225	339,406	48·96
1859	61,760	47,598	77·07	1877	815,920	418,985	51·35
1860	62,269	50,427	80·98	1878	902,989	536,988	59·47
1861	75,004	61,187	81·58	1879	952,366	604,721	63·49
1862	103,871	68,725	66·16	1880	1,161,017	647,719	55·79
1863	123,941	96,867	78·16	1881	1,444,226	738,334	51·12
1864	147,653	103,715	70·24	1882	1,698,863	934,635	55·02
1865	166,032	108,926	65·60	1883	1,931,464	1,177,788	60·97
1866	168,535	106,230	63·64	1884	2,086,237	1,301,259	62·37
1867	189,072	117,324	62·08	1885	2,174,368	1,458,153	67·06
1868	224,359	144,201	64·29	1886	2,160,070	1,492,992	69·12
1869	264,975	176,362	66·57	1887	2,208,295	1,457,760	66·01
1870	307,142	206,003	67·08	1888	2,509,527	1,578,590	62·90
1871	355,322	197,065	55·46	*1889	2,538,477	1,634,602	64·39
1872	424,989	207,918	48·92	*1890	2,633,086	1,665,835	63·26

* Year ended 30th June, 1890.

Working expenses.

The proportion of revenue now absorbed by working expenses is much larger than formerly. The accompanying table gives the details of working expenses per train mile for 10 years, and it would appear that the expenses of the year which closed at the end of June, 1890, were only 4¾d. higher than of 1881, though in 1886 they were more than 10d. in excess of the expenses of the year referred to. The increase of last year is chiefly owing to an advance in the cost of maintenance of way, locomotive power, and repairs. The cost of working the traffic in the last year given was 49·91d., a rate of expenditure which would require to be further reduced in order to cover the interest on capital invested.

Distribution of Working Expenses per Train Mile.

	1881.	1882.	1883.	1884.	1885.	1886.	1887	1888.	1889.	1890.
	d	d	d	d	d	d	d	d	d	d
Maintenance of Way	11·55	12·96	13·88	13·77	15·71	16·02	14·73	15·39	13·87	13·24
Locomotive Power	14·99	15·56	15·44	16·10	15·62	16·58	16·44	16·73	16·45	15·95
Repairs—Carriages, Waggons, &c.	2·47	2·30	2·27	2·99	2·65	3·58	3·10	4·59	4·66	4·75
Traffic Charges	14·59	13·76	14·23	14·12	14·92	15·95	16·13	15·07	13·68	13·64
Compensation, Personal...	0·24	0·16	0·12	0·11	0·26	0·24	0·45	0·97	0·25	0·32
General Expenses	1·32	1·50	1·67	1·68	3·56	2·93	3·20	2·16	2·43	2·01
	45·16	46·24	47·61	48·77	52·72	55·30	54·05	54·91	51·34	40·91

For the last three years the returns are made out for the twelve months ended on June 30 of each year.

Net revenue.

t revenue for the year which expired on the 30th June £967,251, while the total amount of capital expended n operation to the same period was £30,555,123. The 1 on the capital expended equalled 3·176 per cent., which ost satisfactory return obtained since 1885, and, as will appear, only 0·80 per cent. below the average interest

rnings, and Interest on Capital expended on Railways.

Net Earnings.	Interest on Capital.	Year.	Net Earnings.	Interest on Capital.
£	per cent.		£	per cent.
3,290	·638	1873	246,201	3·653
10,495	1·536	1874	278,872	4·074
12,050	1·176	1875	318,474	4·396
18,381	1·492	1876	353,819	4·428
14,162	1·107	1877	396,935	4·468
11,841	·832	1878	366,001	3·741
13,817	·899	1879	347,645	3·341
35,146	1·842	1880	513,298	4·353
27,073	1·097	1881	705,892	5·307
43,938	1·669	1882	764,228	5·135
57,106	2·079	1883	753,676	4·484
62,305	2·236	1884	784,978	4·201
71,748	2·185	1885	716,215	3·370
80,158	1·973	1886	667,078	2·901
88,613	1·892	1887	750,534	2·965
101,139	1·817	1888	764,573	2·852
158,257	2·688	1889	903,875	3·144
217,071	3·397	1890	967,251	3·176

Since 1887 the accounts have been made up to the 30th June in each year.

Comparison with other countries.

Points of comparison between the railways of a large and thinly inhabited country such as New South Wales and the countries of the Old World are difficult to obtain. The following tables, however, illustrate the population and area in square miles of territory per mile of line open in the principal countries of the world. It will be seen that New South Wales comes fairly well out of the comparison :—

Length of Railway in various Countries, with Population and Area per Mile of Line.

Countries.	Length of Railway.	Population per Miles of Line.	Area per Mile of Line.
Australasia :—			
*New South Wales	2,252	490	138
Victoria	2,341	472	37
South Australia	1,774	181	509
Queensland	2,064	192	324
Western Australia	499	86	1,956
Tasmania	374	398	70
New Zealand	1,912	321	55
Argentine Republic	4,505	844	243
Austria-Hungary	15,182	2,704	16
Belgium	1,761	3,356	66
Brazil	5,700	2,267	577
Canada, Dominion of	12,702	357	273
Chili	1,692	151	173
Denmark	120	17,470	123
France	29,684	129	7
Germany	25,450	1,845	8
Great Britain and Ireland	19,812	1,908	6
Greece	440	4,499	57
India (British)	15,243	16,860	57
Italy	7,827	3,866	14
Japan	1,000	39,607	148
Mexico	4,981	2,058	151
Netherlands	1,616	2,717	8
Portugal	1,184	3,637	21
Russia (in Europe)	19,745	4,542	105
Spain	5,781	3,003	34
Sweden and Norway	5,674	1,171	52
Switzerland	1,962	1,481	8
Turkey (in Europe)	1,261	3,702	53
United States of America	162,160	350	22

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* New South Wales, 1889 ; other Colonies, 1888.

PASSENGER TRAFFIC.

Journeys per head of population.

The number of journeys made by each person in the Colony now averages 15·21 per annum, as against 4·70 in 1877. The increase has been exceedingly rapid as well as fairly uniform, as will be seen from the following table:—

Year.	Number of Journeys.	Year.	Number of Journeys.
1877	4·70	1884	12·78
1878	5·63	1885	14·51
1879	6·25	1886	15·19
1880	7·50	1887	14·13
1881	9·08	*1888	14·55
1882	11·30	*1889	14·81
1883	12·31	*1890	15·21

* Year ended 30th June.

Journeys per head in different Countries.

The figures just given include journeys of season-ticket holders; excluding this traffic, the number of journeys per head would be about 11·7, a number larger than the average of any of the adjacent colonies, Victoria excepted. The average number of journeys performed by inhabitants of the United Kingdom is 19·0, which largely exceeds that of any other population. With this exception, railway travelling is more common in Victoria and New South Wales than in any other country. The average of some of the more important places are:—Belgium, 9·3; France, 5·5; Germany, 5·1; United States, 5·4; Austria, 1·2; Russia, 0·4; South Australia, 10·4; Queensland, 4·5. The total number of persons travelling, including season ticket-holders, and the revenue

Number of passengers carried.

received, are shown in the next table, which should be read in connection with that just given :—

Year.	Number of Passenger journeys.	Receipts.	Year.	Number of Passenger journeys.	Receipts.
		£			£
1855	98,846	9,093	1873	875,602	178,216
1856	350,724	29,526	1874	1,085,501	188,595
1857	329,019	34,970	1875	1,288,225	205,941
1858	376,492	45,858	1876	1,727,730	233,870
1859	425,877	46,502	1877	2,957,144	271,588
1860	551,044	45,428	1878	3,705,733	306,308
1861	595,591	49,637	1879	4,317,864	319,950
1862	642,431	62,096	1880	5,440,138	390,149
1863	627,164	71,297	1881	6,907,312	488,675
1864	693,174	81,487	1882	8,984,313	587,825
1865	751,587	92,984	1883	10,272,037	661,751
1866	668,330	85,636	1884	11,253,109	745,665
1867	616,375	87,564	1885	13,506,346	830,904
1868	714,563	99,408	1886	14,881,604	847,916
1869	759,635	109,427	1887	14,451,303	850,499
1870	776,707	117,854	1888	15,174,115	918,975
1871	759,062	129,496	1889	16,086,223	1,025,601
1872	753,910	164,862	1890	17,071,945	1,059,791

NOTE.—Since 1887 the amounts have been made up to the 30th June in each year.

Suburban traffic

The traffic on the suburban lines, which include only distances within 20 miles of Sydney and Newcastle, Liverpool and Morpeth included, has enormously increased of late years. The following are the particulars for the last three years :—

Return of Suburban Traffic.

Year.	1888.	1889.	1890.
Number of passengers	7,413,868	8,086,908	8,594,5
„ workmen's journeys...	1,738,284	1,796,520	1,990,3
„ Season ticket holders' journeys............	3,227,760	3,460,320	3,936,1
Total passenger journeys	12,379,912	13,343,748	14,521,
Number of miles travelled	70,172,793	77,323,971	83,216,
Average mileage per passenger ...	5·67	5·79	
Amount received from passengers	£186,393	£205,383	£23
Average receipts per mile, per passenger	0·64d.	0·64d.	0·

Receipts per head of population.

The average receipts from passenger traffic per head of population have very rapidly increased, and during 1889 stood at 18s. 10·68d., as against 9s. 3·12d. in 1879. This increase is not due, as might be supposed, to the longer distance travelled by passengers, but to a much greater proportionate increase in the railway mileage than in the population, so enabling a larger measure of railway travelling to be indulged in. The increase is also, to some extent, attributable to the greater favour with which railway travelling is now regarded :—

Receipts from Passenger Traffic per head of Population.

Year.	Amount per head.	Year.	Amount per head.
	s. d.		s. d.
1877	8 7·56	1884	16 11·16
1878	9 3·72	1885	17 10·32
1879	9 3·12	1886	17 1·56
1880	10 9	1887	16 7·64
1881	12 10·20	*1888	17 7·44
1882	14 9·48	*1889	18 10·68
1883	15 10·32	*1890	18 10·56

* Year ended 30th June.

GOODS TRAFFIC.

Analysis of the goods traffic

The weight of goods carried per head of population in New South Wales compares favourably with that of many countries where railways have been long established. The average tonnage from 1877 was :—

Tonnage of Merchandise carried per head of Population.

Year.	Tons.	Year.	Tons.
1877	2·27	1884	3·55
1878	2·47	1885	3·52
1879	2·49	1886	3·28
1880	2·35	1887	3·27
1881	2·68	*1888	3·26
1882	3·29	*1889	3·11
1883	3·43	*1890	3·38

* Year ended 30th June.

Tonnage of merchandise compared with other countries

The largest amount of tonnage per inhabitant is in Scotland, where it averages 9·5; the lowest important European country is Italy, with only 0·4 tons per head. The relative position of New South Wales will be seen from the next table, the figures inserted being the average of five years:—

Tonnage of Merchandise moved per head of Population in the Principal Countries of the World.

	Tons.		Tons.
Scotland	9·5	Victoria	3·0
England and Wales	8·4	Australia (all colonies)	3·0
United States	7·6	Canada	3·1
Belgium	6·5	France	2·5
Germany	5·3	Ireland, Japan, British India	0·8
New South Wales	3·3	Spain, Italy, Russia	0·4 to 0·6

Tonnage of goods carried.

The absolute tonnage of goods carried in each year on New South Wales railways and the earnings therefrom are given in the following table:—

Tonnage of Goods and Earnings of Traffic.

Year.	Tonnage of Goods.	Earnings.	Year.	Tonnage of Goods.	Earnings.
		£			£
1855	140	156	1873	923,788	306,020
1856	2,469	2,757	1874	1,070,938	347,980
1857	20,847	8,417	1875	1,171,354	408,707
1858	33,385	16,451	1876	1,244,131	459,355
1859	43,020	15,258	1877	1,430,041	544,332
1860	55,394	16,841	1878	1,625,886	596,681
1861	101,130	25,367	1879	1,720,815	632,416
1862	205,139	41,775	1880	1,712,971	770,868
1863	218,535	52,644	1881	2,033,850	955,551
1864	379,661	66,167	1882	2,619,427	1,111,038
1865	416,707	73,048	1883	2,864,566	1,269,713
1866	500,937	82,899	1884	3,124,425	1,340,572
1867	517,022	101,508	1885	3,273,004	1,343,464
1868	596,514	124,951	1886	3,211,951	1,312,154
1869	714,113	155,548	1887	3,339,253	1,357,796
1870	766,523	189,288	1888	3,399,772	1,376,149
1871	741,986	225,826	1889	3,485,839	1,512,876
1872	825,360	260,127	1890	3,788,950	1,573,295

NOTE.—Since 1887 the accounts have been made up to the 30th June in each year.

Receipts per head.

The receipts per head of population from goods traffic reached the maximum in 1883, when they amounted to £1 10s. 5·16d. In 1884 they remained at the same figure, but in 1889 the amount received had fallen to £1 6s. 11·52d. The receipts during each year since 1877 are shown herewith :—

Receipts from Goods Traffic per head of Population.

Year.	Amount.	Year.	Amount.
	£ s. d.		£ s. d.
1877	0 17 3·72	1884	1 10 5·16
1878	0 18 1·68	1885	1 8 10·32
1879	0 18 3·72	1886	1 6 8·76
1880	1 1 2·88	1887	1 6 7·00
1881	1 5 1·56	*1888	1 5 4·32
1882	1 7 11·40	*1889	1 6 11·52
1883	1 10 5·16	*1890	1 7 5·24

* Year ended 30th June.

Lines open, under construction, and authorized.

Up to 31st December, 1889, the total length of lines opened for traffic was 2,171½ miles, and 10½ miles were in course of construction at that date, making a total of 2,182 miles of road either open for traffic or being constructed. The 10½ miles referred to, being the branch from Hornsby to St. Leonards, was opened for traffic at the beginning of 1890. Since that time railway construction in the colony has been practically at a standstill, though several new lines, recommended by the Parliamentary Standing Committee on Public Works, have recently been passed by the Legislature, and it is expected will shortly be commenced.

Tonnage of merchandise compared with other countries

The largest amount of tonnage per inhabitant is in where it averages 9·5 ; the lowest important European Italy, with only 0·4 tons per head. The relative position South Wales will be seen from the next table, the figures being the average of five years :—

Tonnage of Merchandise moved per head of Population Principal Countries of the World.

	Tons.	
Scotland	9·5	Victoria
England and Wales	8·4	Australia (all col
United States	7·6	Canada
Belgium	6·5	France
Germany	5·3	Ireland, Japan,
New South Wales	3·3	Spain, Italy,

Tonnage of goods carried.

The absolute tonnage of goods carried in each Wales railways and the earnings therefrom following table :—

Tonnage of Goods and Earnings of

Year.	Tonnage of Goods.	Earnings.	Year.	
		£		
1855	140	156	1873	[illegible]
1856	2,469	2,757	1874	[illegible]
1857	20,847	8,417	1875	[illegible]
1858	33,385	16,451	1876	[illegible]
1859	43,020	15,258	1877	[illegible]
1860	55,394	16,841	1878	[illegible]
1861	101,130	25,367	1879	[illegible]
1862	205,139	41,775	1880	[illegible]
1863	218,535	52,644	1881	[illegible]
1864	379,661	66,167	[illegible]	[illegible]
1865	416,707	73,048	[illegible]	[illegible]
1866	500,937	82,899	[illegible]	[illegible]
1867	517,022	101,508	[illegible]	[illegible]
1868	596,514	124,951	[illegible]	[illegible]
1869	714,113	155,548	1887	[illegible]
1870	766,523	189,288	1888	[illegible]
1871	741,986	225,826	1889	[illegible]
1872	825,360	260,127	1890	3,

NOTE.—Since 1887 the accounts have been made up to the 30th

Rolling stock.

The rolling stock of the New South Wales railways on the 30th June, 1890, consisted of 439 engines, 1,064 passenger cars, and 9,304 goods vehicles, making a total of 10,807 stock. This was an increase of 10 engines and 244 goods stock over the number at the end of the previous twelve months, but a decrease of 21 passenger carriages. Since the beginning of July, 1890, the stock has received in addition 6 lavatory first-class carriages, 10 second-class express carriages, and 3 first and 3 second class American carriages for suburban working, besides which there were still under order over 1,000 carriages, goods waggons, and coal-hopper waggons, and 52 locomotives.

Cost of railways.

The cost of the lines open for traffic, as already stated, was £30,555,123, to meet which £27,734,581 has been realized by the issue of debentures of the nominal value of £28,983,967, the balance having been paid out of the general revenue of the country. Debentures of the value of £1,109,075 have been finally paid off leaving £27,874,892 still outstanding on the 30th June, 1890. The amount of interest payable on that date was £1,107,894.

Outstanding debt.

Wages paid.

During the year which closed with the end of June, 1890, the total amount of wages paid by the Railway Department amounted to £1,199,796, as against £1,116,703 in the previous year. Of this sum the Maintenance Branch took £462,576, and the Locomotive Branch £465,254, while the Traffic Branch absorbed £271,966. Additions and improvements to stations, buildings, siding accommodation, &c., and rolling stock during the year cost £292,516, which sum was charged to capital account. Compensation for personal injury was paid to the amount of £22,407, and for damage to and loss of goods, £4,683.

Number of employees.

There were altogether 11,827 persons employed by the Railway Department during the year ending 30th June, 1890, of which number 1,305 comprised the salaried staff, and 10,522 were on wages. For the previous year total number was 10,103, of whom 8,830 were on wages, and 1,273 on salary.

PRIVATE RAILWAY LINES.

Deniliquin to Moama line.

Silverton and Broken Hill line.

In the Colony of New South Wales the Government policy has hitherto been to keep the railways under State management and control, and this policy has been departed from in two instances only, with the exception of short lines to connect coal-mines with the main railways, &c. The Parliament granted permission to a company to construct a line from Deniliquin, in the centre of the Riverina district, to Moama, on the Murray, where it meets the railway system of Victoria. A considerable proportion of the wool and other produce of Riverina reaches the Melbourne market by this route. The line is 45 miles in length, and was constructed under a special Act of Parliament, assented to on the 3rd March, 1874. The land required was granted by the New South Wales Government, right being reserved for the purchase of the line at any time after twenty-one years from the passing of the Act. The capital of the Company is £125,000, of which £100,000 has been called up, while £46,000 was raised by debentures. The dividends paid during 1887 and 1888 were at the rate of 10 per cent., but for the previous years averaged only 8 per cent. During the year 1888 a line, 35 miles 54 chains in length, was laid down from the Barrier silver mines, Silverton, and Broken Hill to the South Australian Border. The line, since its inception, has had large support. The following table shows the operations of these lines during the past year :—

Name of Line.	Date of Opening.	Length of Line.	Total Expended on Construction.	Passengers Carried.	Goods Carried.	Train Miles Run.	Rolling Stock.		
							Locomotives.	Passenger Carriages.	Goods Waggons.
		m. c.	£	No.	Tons.		No.	No.	No.
Deniliquin-Moama..	4 July, 1876	45 0	162,672	16,131	20,535	60,303	4	6	62
Silverton	13 Jan., 1888	35 54	194,665	47,057	221,113	87,170	7	13	400

CITY TRAFFIC, TRAMWAYS, ETC.

Within the Metropolis of Sydney the public traffic, with the exception of the tramway system, is controlled by four Transit Commissioners, comprising the Mayor of Sydney, the Inspector-General of Police, a representative elected by the Aldermen of Suburban Municipalities, and one by the holders of licenses under the Commissioners. The tramways, like the railways, are the property of the Government, and are under the control of the Commissioners for Railways. There were, up to June, 1888, five distinct systems of tramways in operation, having a total length of 51 miles. These consisted of the Metropolitan tramways, with the North Shore Cable tramway, altogether 31 miles in length; the Newcastle and Plattsburg line, 7½ miles; the Campbelltown and Camden line, 7½ miles; and the Kogarah and Sandringham line, 5 miles. The two last-named tramways are now included under the head of Railways, leaving the total length of tramways at 39½ miles, including the extension to Dulwich Hill. The Metropolitan tramways may be fairly regarded as street railways, and they are worked by locomotives of a special construction. Proposals for the substitution of cables or electric power for the steam motors have been considered, and it is probable that experiments will be made to test the merits of the respective systems.

Interest on capital.

The net return on capital has varied greatly from year to year. The favourable results of the first three years encouraged the belief that the metropolitan tramways would prove a source of increase to the general revenue of the Colony. These anticipations, however, have been far from realized, as will be seen from the following table, which does not include the North Shore cable tramway:—

Year.	Length of Line.	Number of Passenger fares collected.	Car Mileage.	Total Earnings.	Working Expenses.	Earnings per Car Mile.	Working cost per Car Mile.	Per centage of working cost of gross earnings.	Net Earnings.	Capital invested on Lines open.	Interest on Capital.
1879*......	1½	443,341	13,270	£ 4,416	£ 2,278	79·87	41·19	51·59	£ 2,138	£ 22,269	33·00
1880	4	2,086,897	84,074	18,980	13,444	54·18	38·38	70·83	5,536	60,218	12·34
1881	9½	7,090,125	296,906	62,549	52,107	50·56	42·12	83·31	10,442	169,450	6·16
1882	22	15,269,100	670,649	126,202	103,136	45·16	36·91	81·72	23,066	412,561	6·80
1883	25	25,684,285	1,076,096	190,699	178,877	42·53	39·89	93·80	11,822	544,105	2·22
1884	27½	30,202,303	1,242,491	219,942	215,167	42·48	41·56	97·83	4,775	643,111	0·76
1885	27½	†39,594,753	1,220,500	223,340	207,995	43·91	40·90	93·13	15,345	708,109	2·17
1886	27½	52,977,578	1,222,943	226,367	201,737	44·42	39·59	89·12	24,630	742,113	3·32
1887	29½	50,108,256	1,220,026	214,125	201,468	42·12	39·63	94·08	12,657	731,582	1·76
1888‡......	29½	51,563,197	1,246,543	221,060	204,227	42·56	39·32	92·38	16,833	742,555	2·27
1889‡......	29½	52,810,026	1,338,386	225,833	206,092	40·49	36·95	91·25	19,741	771,255	2·56
1890‡......	30½	57,463,650	1,474,646	249,508	207,517	40·60	36·46	83·17	41,991	790,555	5·31

* The line was opened for three and a half months only in 1879, and for part of this period was worked with horsepower. † Up to the year 1885, 3d. cash fares and 2d. tickets were counted as single fares; from 1886 inclusive all tickets issued were at 1d. values, and cash fares paid are in this return calculated at the same rate. ‡ Year ending 30th June

Fare per mile.

The fares paid on the tramways average about 1d. per mile, the lines being divided into sections of about 1 and 2 miles. The number of persons using the tram-cars has not been ascertained with any exactness, as the tickets collected give only a partial indication of the number travelling.

The following table shows the cost of Construction of the City and Suburban Tramways to 30th June, 1890 :—

	Length of miles	Total Cost.	Cost per mile.
Railway Station to Bridge-street	1¾	90,375	51,643
Liverpool-street to Randwick and Coogee	5¼	107,587	20,493
Darlinghurst Junction to Waverley and Woollahra	3½	49,099	14,028
Waverley to Bondi Beach	1¾	25,409	14,519
Waverley to Randwick	1½	8,147	5,431
Crown-street Junction to Cleveland-street	¾	16,069	21,425
Railway Station to Glebe and Forest Lodge	2¼	38,021	16,898
Newtown, Glebe Junction to Dulwich Hill	4¼	57,591	13,551
Forest Lodge Junction to Leichhardt	2¾	35,891	13,051
Railway Station Junction to Botany	6¾	83,651	12,393
	30½	511,840	16,781

Total cost of construction.

The amounts expended on rolling stock, machinery, workshops, and furniture, for the Metropolitan Tramways, were £210,079, £11,337, £55,186, and £2,113 respectively, or £278,715 in all. This makes the total cost for all City and Suburban Lines £790,555, or an average on all charges of £25,920 per mile. The cost of the Cable Tramway at North Shore to same date was £73,812, and the Newcastle to Plattsburg £69,247, giving a total expended on the whole Tramway system of £933,614, or an average of £23,636 per mile opened.

In the following table are given the expenditure on construction, earnings, working expenses, &c., on all Tramways since their inception in 1879 :—

Year.	Total Length of Lines in Miles.	Capital Expended on Lines open for Traffic.	Total Capital Expended.	General Total of Passengers' Tickets	Value of Fares received.	Total Earnings.	Expenditure for Working Expenses.	Net Earnings over Working Expenses.
		£	£	No.	£	£	£	£
1879	1½	22,061	22,061	443,341	4,416	4,416	2,278	2,139
1880	4½	60,218	61,901	2,086,897	18,968	18,980	13,444	5,536
1881	11¼	181,659	220,318	7,090,125	61,921	62,549	52,107	10,442
1882	29½	447.939	458,145	15,296,238	127,124	128,354	120,181	8,174
1883	32½	579,439	648,125	25,713,433	190,209	193,929	183,218	10,711
1884	35	683,179	789,499	30,231,382	218,885	223,454	215,086	8,368
1885	35	748,506	890,723	39,620,614	220,332	227,144	207,898	19,246
1886	36½	854,260	985,602	*53,973,311	230,374	234,143	207,635	26,507
1887	51	917,995	1,023,635	52,159,808	225,764	229,772	211,722	18,050
1888	†43½	907,987	1,014,664	55,668,800	241,838	241,838	217,629	24,209
‡1889	§38½	909,595	1,016,928	55,510,860	243,563	243,563	221,835	21,728
‡1890	39½	933,614	1,020,808	61,763,761	268,962	268,962	224,073	44,889

* The excessive increase is due to the substitution of penny tickets for those of greater value in use in previous years.
† Camden-Campbelltown line now placed under Railways.
§ Kogarah and Sans Souci line now placed under Railways.
‡ Year ending 30th June.

Passengers Killed or Injured.

Years over which figures extend.	Countries.	Average per Million Passengers.	
		Killed.	Injured.
1887	United Kingdom	0·17	1·95
1881–3	Belgium	0·19	1·45
1890	Canada	3·05	12·60
1886–90	New South Wales	0·31	4·08
1881–5	Victoria	0·17	3·92
1882–5	South Australia	0·32	0·76
1886	New Zealand	0·88	1·98

The foregoing statements show that the Victorian lines are as safe as those of any country in the world, the percentage killed being as low as that of the United Kingdom. This mode of comparison is, however, not a perfect one, as the question of the distance travelled by each passenger is an important element of the risk run, and is omitted from consideration. If this were made a factor of the comparative statement it would probably be found that the risk of each traveller by rail would show less variation in the different countries than would seem to be the case from the figures just given.

Classification of casualties.

The persons meeting with accidents on railway lines may be grouped under three heads—passengers, servants of the railways, and trespassers; and the accidents themselves may be classified into those arising from causes beyond the control of the person injured, and those due to misconduct or want of caution. Adopting these classifications the accidents during the year ended on June 30, 1890, were:—

Accidents arising.	Passengers.		Railway Employés		Trespassers, &c.		Total.	
	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.
From causes beyond their control.	5	25	1	5	...	...	6	30
Through misconduct or want of caution.	1	26	18	92	24	18	43	136
Total.....	6	51	19	97	24	18	49	166

Railway accidents.

It will be noticed that of the 49 persons killed, 24 were trespassers, or persons who had no business to be on the railway at all. Of the remaining fatal cases 6 were passengers, 5 of whom lost their lives through collisions, and the other was the case of a man who jumped from a train in motion. Of the persons injured 51 were passengers, more than half of whom received injury through their own misconduct or want of caution; 97 railway employés were injured, and in no less than 92 of these cases they were themselves to blame. A considerable proportion of the trespassers who met with accidents were children.

The returns of the railways of the United Kingdom for the year 1889 show a large increase in the number of fatalities. Accidents to trains, rolling-stock, and permanent way caused the death of 92 persons, and injury to 1,133, as compared with 18 killed and 687 injured in 1888. There were 39 collisions between passenger trains, and the same number of collisions between passenger trains and goods trains; and there were three fires in trains. 553 passengers were killed and 1,051 were injured by various accidents, including those resulting from their own misconduct and want of caution. There were 84 suicides. Accidents to railway employés, caused by the travelling of trains, resulted in the death of 431 persons, and injury to 2,652. The total number of persons killed, from all causes, was 1,076—an increase of 171 over the number in the previous year. The total number injured was 4,836, or an increase of 1,010.

Tramway accidents.

No statement can be made of the number of persons injured on the tramways of the city compared with the total number of persons carried, as the latter is not definitely known. A record of the accidents which occurred during the year which ended on the 30th June last shows them to have been 43 in number, of which 14 were fatal, and 29 were cases of injury. There were 5 fatal and 5 non-fatal accidents to passengers. Two servants of the Department were killed, and 5 others suffered injury. Twenty-six accidents in connection with trams occurred to persons who were not passengers, 7 of which were fatal, and 19 non-fatal. Fourteen of the casualties arose from persons entering or leaving a tram in motion, and 9 accidents occurred to children.

Omnibus traffic.

Besides the tramways the citizens of Sydney are well provided with other means of travelling within the city and suburban limits, as there are numerous omnibus and cab proprietaries. At the head of these stands the Sydney Tramway and Omnibus Company. No tramways are maintained by this company, as its name would imply, but lines of omnibuses have been established by it in all the principal routes of traffic from the city to the suburbs. The plant of this Company consists of 960 horses, of which 894 are in work, the remainder being held in reserve. Their vehicles consist of 148 omnibuses, 10 carriages, and 4 breaks. They have 141 drivers constantly at work, and as many as 192 other employees, including clerks, mechanics, grooms, stablemen, &c. There are also public vehicles belonging to private individuals, or small associations, plying between the city and some of the more distant suburbs, making a total of 260 omnibuses in all.

Cabs and vans.

The number of cabs and waggonettes registered and licensed by the Transit Commissioners under the Municipal by-laws amounts to 1,242, in addition to which there are 547 vans and other vehicles; and the public interest is secured against exaggerated demands on the part of licensed cabmen, and other drivers of public vehicles, by a system of fares fixed on a scale liberal to the licensee, whilst not too high for the public to fairly pay. The drivers are placed under the direct control of the Transit Commissioners, who have power to obtain redress from the owners of the vehicles, should any just complaints be made against them. The following shows the number of vehicles of each class licensed during the year 1889 and the number of registered drivers :—

Public vehicles.

Description of Vehicle.	No. of Vehicles.	License Fees.	No. of Drivers.	License Fees.
		£		£
Omnibuses	260	1,290	501	244 10
Waggonettes	20	66		
Carriages	9	23	1,457	717 10
Cabs	1,222	1,765		
Drays and vans	538	685	530	132 10
Total	2,049	3,829	2,488	1,094 10

* Includes 24 conductors.

POSTS AND TELEGRAPHS.

Postal and telegraphic communication.

In the matter of postal and telegraphic communication the Colony of New South Wales is liberally provided. Not only is the intercolonial telegraphic system as perfect as can be desired, but the metropolis is in direct communication with Europe and the outer world by means of the cables connecting with the various Asiatic continental telegraph lines.

Submarine cable.

A submarine cable also connects the Colony with New Zealand, and has its Australian terminus within sight of the spot where Captain Cook landed on the shores of Botany Bay, and within a stone's throw of the monument erected to the memory of La Pérouse—the unfortunate and gallant emulator of the great English navigator—and the tomb of Père Le Receveur, the botanist attached to his staff.

History of the Postal Department.

The history of the Postal Department of New South Wales is interesting as affording a striking illustration of the manner in which very small beginnings have led to great results. For the first twenty-three years of the Colony's existence there were neither regular post-offices nor means of postal communication.

First post-office

The first post-office was established by Governor Macquarie in the year 1810, Mr. Isaac Nichols being appointed Postmaster. The office was in High-street (now known as George-street), at the residence of Mr. Nichols, who was, "in consideration of the trouble and expense attendant upon this duty," allowed to charge on delivery to parties addressed, 8d. for every English or foreign letter of whatever weight, and for every parcel weighing not more than 20 lb., 1s. 6d.; but exceeding that weight, 3s. The charge on Colonial letters was 4d., irrespective of weight; and soldiers' letters, or those addressed to their wives, were charged 1d. Very little improvement in regard to postal matters took place for some years.

First Postal Act

In 1825 an Act was passed by Sir Thomas Brisbane, with the advice of the Council, "to regulate the postage of letters in New South Wales," giving power for the establishment of post-offices, and to fix the rates of postage. A proclamation was subsequently issued, fixing the rates of postage and the salaries and allowances of the postmasters; and at the same time persons were invited to tender for the conveyance of mails between Sydney and Parramatta, Windsor and Liverpool, and between Liverpool and Campbelltown, and from Parramatta to Emu Plains, and thence to Bathurst. It was, however, not until 1828 that the provisions of the Act were put into full force.

Early postage rates.

The rates of postage appear to have depended upon the distance and the difficulty of transmission. The lowest single inland rate was 3d., and the highest 12d., the postage on a letter increasing according to its weight, which was fixed for a single letter at ¼-ounce. Letters between New South Wales and Van Diemen's Land were charged 3d. each (ship rate), and newspapers 1d. Other ship letters were charged 4d. single rate, and 6d. for any weight in excess.

Franking.

The privilege of franking was allowed to the Governor and a number of the chief public officials, and letters to and from convicts passed free under certain regulations. In

1828 the total amount of salaries paid to the country postmasters was £34 7s. 9d., and the establishment in Sydney consisted of one principal postmaster, one clerk, and one letter-carrier. A letter-carrier was subsequently appointed for Parramatta, and he was authorized to charge the public 1d. on every letter delivered by him, which was his only remuneration. In 1831 a two-penny post was established in Sydney, and in 1835, under Sir Richard Bourke, the Act of 1825 was repealed and another Act was passed, which fixed the charge on a single letter at 4d. for 15 miles, 5d. for 20 miles, 6d. for 30 miles, and so on up to 1s. for 300 miles. In 1837 a post-office was established in Melbourne, which was then of course a part of New South Wales. Stamps were introduced in the same year in the shape of stamped covers or envelopes, which are believed to have been the first postage stamps ever issued.

Sir Richard Bourke's Postal Act.

Stamped covers.

The Sydney establishment had grown in the year 1838 until it consisted of one postmaster-general, one accountant, six clerks, six letter-carriers, and one office-keeper, or fifteen persons in all. The revenue for that year was £8,390, and the expenditure was £10,357; there were as many as forty post-offices throughout the Colony, which then included what are now known as Victoria and Queensland, besides which, as New Zealand was not a separate Colony until 1841, the only post-office she had—at Korraika—was paid through the New South Wales Government. An overland mail to Adelaide was established in 1847, the postage on a single letter being 1s. 6d. The Postal Act was amended again in 1849, during the government of Sir Charles Fitzroy, when the postage on town letters was fixed at 1d. and the inland letters 2d., while the postage on ship letters was 3d., in addition to the inland rate. The use of postage stamps in the present form was authorized, and the privilege of franking was abolished, petitions to the Queen, the Governor, and the Executive and Legislative Councils being the only things allowed to pass free through the post.

Growth of the Sydney Post Office.

Reduction of postal rates.

Postage stamps.

Progress of the Department.

Railways utilized for postal purposes.

Revenue in 1855.

From the time of the discovery of gold in the year 1851 the history of the post-office has been one of progress and improvement. The Postmaster-General was originally a non-political officer, as the Registrar-General and the Auditor-General are at present. In the year 1855—the first for which an annual report was laid before Parliament—there were in the Colony altogether 155 post offices. The head office was in George-street, on the same site as the present edifice, but the structure was small and inconvenient, notwithstanding its doric columns and pediment in front. There were no electric telegraphs in the Colony at that time, and the arrivals of vessels at the Heads were signalled to the Observatory by means of flags and semaphores. It was in September, 1855, that the first railway was opened in New South Wales, and prior to that time the Southern and Western mails used to leave the General Post Office in old-fashioned mail coaches every evening. During that year the total number of miles travelled by the postal contractors, by coach and on horseback, was 1,023,255 miles. The number of letters posted was 2,114,179, of which 617,041 are described as "foreign," or, in other words, were addressed to places beyond the Colony. The number of newspapers was 2,100,989, of which 1,281,613 were inland, and 819,376 were "foreign." Book parcels and packets were not reckoned separately, but were counted as letters. Ten petitions to the Governor or the Council were conveyed free during the year. The revenue of the Department for 1855 was £24,902, and the expenditure was £60,221, while the staff numbered 223 persons in all, of whom 56 were attached to the office in Sydney. The annual report states, with something like pride, that the communication with Victoria was not less than three times a week.

Iron pillar-receivers.

The first iron pillar letter-receivers in Sydney were erected in 1856. During the same year 22 miles of railway were utilized for postal purposes, and 16½ miles were added in the following year. The number of letters delivered in Sydney in 1856 was 1,336,032, and 1,481,416 in the country, being an average of about 10½ to every person in the community. There were 86,914 registered letters in 1857, and 7,873 oz. of gold were sent through the post that year, as against 23,712 oz. in the previous year. The postal revenue in the year 1857 amounted to £35,031, of which £35,716 was derived from the sale of stamps. The expenditure amounted to £63,865, out of which sum the conveyance of mails in the Colony absorbed £41,324, without reckoning £20,000 towards the subsidy for the conveyance of English mails.

Ocean mail contracts.

In his Report for 1857 the Postmaster-General is obliged to admit that the mail contract for the conveyance of mails between the Australasian Colonies and the United Kingdom had proved "an utter failure, so far as the stipulated time-table might be taken as a criterion." Only 10 monthly mail-steamers arrived that year, and only 11 were despatched, and but 1 steamer out of the 10 arrived to contract time. The time allowed was 58 days from Southampton to Sydney, and 56 days from Sydney to Southampton.

Post-office in 1889.

In 1889 there were 1,261 post-offices in the Colony, besides 305 receiving offices, and the staff in connection with the Postal Department numbered 2,650 persons, exclusive of mail contractors. The postal lines last year extended over 28,718 miles, on which the mails were conveyed 2,263 miles by rail and tram, 14,914 miles by coach, and 11,541 miles on horseback. The number of miles actually travelled by the mails was 7,299,400.

Increase of postal business.

But while the number of miles travelled by the mails in 1889 was 7 times the number of miles travelled in 1855, the number of letters posted during the same period had increased 24 times, and the number of newspapers over 16 times. In 1889 the number of letters was 53,971,300, of which 50,777,500 were posted within the Colony, or nearly 46 per head for every individual of the population. The number of newspapers posted in the Colony during that year was 34,412,500, or over 31 per head. Packets numbered 7,606,600, or nearly 7 per head, while in 1858, the first year in which they were enumerated separately, there were only 68,564 packets and parcels. Postal cards were first introduced in 1876, when the number sent was 128,786; in 1889 no less than 630,100 were posted.

Improved ocean mail service.

Equally marvellous progress has been made in regard to the means of postal communication with the United Kingdom and the continents of Europe and America. Instead of the unsatisfactory ocean mail service of 1857, which nominally brought monthly mails, with news 58 days old, there are now four great lines of ocean steam-ships, which bring mails *via* the Suez Canal at least once a week, the time occupied in the conveyance of the mails averaging 34 to 35 days. In addition, there is another mail service *via* San Francisco, which averages 40 days in transit, and arrives and departs monthly. Regular steam communication with England was first established in 1852. Prior to that time the Colony had to depend upon the irregular arrival and despatch of sailing vessels, but in that year the steamships "Australia," "Chusan," and "Great Britain" were despatched from England, making the voyage in 60 days, causing a strong desire in the minds of the Colonists for a more frequent and steady system of communication with the Old World. The outbreak of the Crimean War in 1854 hindered for a while the accomplishment of this object, but in 1856 a line of steamers was again laid on, and the service was carried on by the Peninsular and Oriental Company, and the Royal Mail Company for some years, without giving so much satisfaction to the public as might have been expected.

First mail steamer.

The Panama line.

As far back as 1854 a proposal was made for the establishment of a line of mail packets *via* Panama, and negotiations on the subject were carried on for several years between the Government of the United Kingdom and those of New South Wales and New Zealand. The result was that in 1866 the line was started, and continued in operation until the end of 1868, when it was terminated through the failure of the company by which it had been carried out. In the following year this Colony, in conjunction with New Zealand, inaugurated a mail service *via* San Francisco, which, with a few interruptions and under various conditions, has been continued up to the present time. The existing contract expires in November, 1890, and, so far, it does not seem likely to be renewed.

San Francisco route.

Mail service *via* Suez.

The establishment of a mail route *via* America had the effect of stimulating the steamship owners who were engaged in the service *via* Suez, and from that time there was a marked improvement in the steamers laid on, as well as in the punctuality and speed with which the mails were delivered. The Peninsular and Oriental Company have carried mails for the colonies almost from the inception of the ocean steam service until now, with very few interruptions. Towards the end of 1878 the Orient Company commenced carrying mails between Australia and the United Kingdom, and has continued to do so ever since. More recently the fine steamers of the Messageries Maritimes of France, and the North German Lloyd's, have entered the service, so that there are now one or two mails received and despatched every week, and a voyage to Europe, which was formerly a formidable undertaking, involving great loss of time and much discomfort, is regarded as a mere pleasure trip to fill up a holiday.

French and German steamers.

New Post-office building.

In the year 1865 the office of Postmaster-General was made a political one, at first without, and subsequently with, a seat in the Cabinet. The old Post-office building in George-street was found so small and inconvenient that it was resolved to build a larger and more commodious edifice on the same site, and in 1863 the business of the department was removed to a temporary wooden building in Wynyard-square. It was not until 1873 that the new building was partly finished so that the officers could remove from the crowded and ill-ventilated structure in Wynyard-square, where they had carried on their business under great disadvantages and difficulties, to the present palatial structure, which is in every respect a credit to the Colony. The head quarters of the Electric Telegraph Department, the Money Order Office, and the Post-office Savings Bank are in the same building, so that the Postmaster-General has around him all the various branches over which he presides. The following return shows the operations of the Post-office in five-year periods from 1855 to 1880, and annually since that date to the end of 1889 :—

Number of Officers, Employés, Income, Expenditure, &c., of the New South Wales Post Office.

Year.	Number of Post Offices.	Number of Receiving Offices.	Number of Persons employed.	Extent of Postal Lines.				Miles actually travelled.	Cost of conveyance of mails, Foreign and Inland.	Income.	Approximate expenditure.
				Railway.	Coach.	Horse.	Total.				
									£	£	£
1855	155	8	223	*	*	*	*	1,023,255	45,412	24,902	60,221
1860	289	*	289	60½	1,757½	6,413	8,231	1,461,518	44,303	45,613	71,391
1865	435	*	513	140¾	2,528	9,323	11,991¾	2,521,212	49,840	70,985	83,659
1870	562	*	690	339	3,865	10,038	14,242	3,062,458	48,649	84,441	86,722
1875	752	7	967	435	5,407	11,829	17,671	3,787,757	138,912	107,761	196,368
1880	927	119	1,536	891	8,717	12,819	22,427	5,246,373	174,238	194,084	268,128
1881	973	155	1,691	1,056	9,384	12,654	23,094	5,467,182	173,911	205,446	273,451
1882	1,005	169	1,824	1,343	9,898	12,682	23,923	5,861,317	180,580	229,911	288,186
1883	1,046	188	1,960	1,401	10,475	13,286	25,162	6,246,300	208,798	261,813	326,674
1884	1,085	206	2,076	1,684	11,302	13,444	26,430	6,509,446	217,607	289,192	351,254
1885	1,115	202	2,155	1,797	11,736	13,150	26,683	6,621,996	226,105	316,172	375,965
1886	1,157	217	2,307	1,948	12,540	12,606	27,094	6,891,200	233,723	330,591	396,710
1887	1,167	263	2,363	2,074	13,305	12,135	27,514	7,015,600	264,886	342,094	426,587
1888	1,203	288	2,501	2,219	14,411	11,530	28,160	7,144,500	248,403	368,956	415,392
1889	1,261	305	2,650	2,263	14,914	11,541	28,718	7,299,400	212,725	395,584	393,606

* Not recorded.

Cost of the Postal Department.

It will be noticed that the Postal Department has been carried on at a considerable annual loss to the State. This is due in a great measure to the wide area over which the population of the country is scattered, which necessitates a proportionately large expenditure for the carriage of mails; and also to the fact that newspapers, which form the bulk of the mail matter, are carried free. But it has always been held that the safe and regular despatch and delivery of the mails is an item of too much importance in the political, commercial, and social life of the Colony to be neglected, even though it should entail a charge of some thousands of pounds annually to the general revenue. For some years past the difference between the income and the expenditure has been gradually diminishing, until, as the previous table shows, in 1889 for the first time, the income received exceeded the approximate expenditure, the excess amounting to £1,977. The revenue for the year was derived mainly from the sale of postage stamps, which brought in the sum of £400,010. Some of these stamps, however, were used as duty stamps, and consequently cannot properly be taken into the Post-office accounts. It has therefore been found necessary to deduct £24,000 as the approximate value of stamps used for other than postal purposes. Fees for private boxes came to £3,336, and postage on unpaid and insufficiently prepaid correspondence came to £3,461. The share of contributions from non-contracting colonies on account of the San Francisco mail service was £4,649, and on account of the Federal Ocean mail service, £3,535. The total was made up with miscellaneous receipts, £4,593.

Postal revenue.

Postal expenditure.

An analysis of the items of expenditure shows that the salaries chargeable to the Postal Department amounted to £140,497; the conveyance of mails cost £212,725; and the sum of £40,384 was set down for contingencies. The average cost per mile of the inland mail conveyance for the year was about $5\frac{1}{16}$d., as against $5\frac{6}{15}$d. in 1888. The mail contracts for 1889 show a saving of £2,928 over those of the previous year.

The following return will give an idea of the magnitude of the work done by the Post-office of New South Wales:—

Letters, Newspapers, &c., passing through the Post Office of New South Wales.

Year.	Number of Letters.		Number of Newspapers.		Packets & Book Parcels.		Total.			
	Beyond the Colony.	Inland and town.	Beyond the Colony.	Inland.	Beyond the Colony	Inland.	Letters.	Newspapers.	Packets, &c.	Postal Cards.
1876	1,852,400	12,614,500	1,508,300	5,408,900	109,500	304,400	14,466,900	6,917,200	413,900	109,664
1877	1,979,500	14,529,500	1,652,000	6,733,000	135,000	263,600	16,509,000	8,385,000	398,600	109,080
1878	2,220,600	15,939,300	1,657,600	7,811,600	133,100	403,700	18,159,900	9,469,200	536,800	123,720
1879	2,442,700	16,964,600	2,020,000	9,447,100	136,300	459,200	19,407,300	11,467,100	595,500	155,920
1880	2,776,000	18,956,500	2,381,200	11,409,800	146,600	565,000	21,732,500	13,791,800	711,600	153,360
1881	3,159,400	23,196,200	2,726,400	13,801,500	180,500	670,800	26,355,600	16,527,900	851,300	178,560
1882	3,589,200	25,737,300	2,720,600	15,361,700	218,600	1,044,200	29,326,500	18,082,300	1,262,800	222,800
1883	4,168,100	31,258,300	3,014,500	16,562,800	269,700	1,379,200	35,426,400	19,577,300	1,648,900	259,400
1884	4,947,200	37,289,800	3,689,600	21,373,900	316,200	2,705,900	42,237,000	25,063,500	3,022,100	296,300
1885	5,328,200	34,023,000	3,987,900	21,579,500	552,600	2,894,200	39,351,200	25,567,400	3,446,800	341,000
1886	5,582,700	37,267,200	4,276,300	*25,256,100	865,800	3,983,000	42,849,900	*29,532,400	4,848,800	348,700
1887	5,624,000	39,221,900	4,744,400	*29,437,200	980,800	4,549,900	44,845,900	*34,181,600	5,530,700	442,100
1888	6,202,800	42,783,200	5,255,000	28,500,400	1,041,600	5,560,300	48,986,000	33,755,400	6,601,900	520,920
1889	6,346,700	47,624,600	5,599,000	30,931,800	1,305,000	6,564,400	53,971,300	36,530,800	7,869,400	630,100

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* These figures are supplied by the newspaper proprietors, and it is believed that the numbers given for 1886 and 1887 are somewhat in excess of the truth.

Compared with the other provinces of Australasia and with the United Kingdom, New South Wales appears with considerable advantage in regard to the number of letters and newspapers received per head of population, as may be seen from the following table:—

Country.	Number delivered per head of population.	
	Letters.	Newspapers and packets.
New South Wales*	49	40
Victoria	45	29
Queensland*	33	32
South Australia*	51	31
Western Australia*	†62	38
Tasmania*	32	41
New Zealand	32	13
Australasia	48	26
United Kingdom	40	14
England and Wales	46	16
Scotland	33	15
Ireland	19	7

* Year 1889. Others, 1888. † Includes postcards.

MONEY ORDERS AND SAVINGS BANKS.

The money order system was brought into operation in this Colony in January, 1863, when nineteen offices were opened—the head office in Sydney, and eighteen branch offices in various parts of the Colony. In June of the same year the operation of the system was extended to the United Kingdom, and all the Australasian Colonies with the exception of Tasmania, and the number of offices in the Colony was increased to forty-seven. The Colony of Tasmania came into the arrangement in 1865, and the Department has continued steadily to progress. In 1889 **Money order system.**

there were 518 Money Order Offices in the Colony, twenty-six new offices having been established during the year. Details respecting the business transacted by the Department will be found in the chapter devoted to Finance and Public Wealth.

Post-office Savings Banks.

The Post-office Savings Bank, which is also under the control of the Postmaster-General, was established in the year 1871 at the General Post Office, Sydney, with branches at the principal country towns. The growth of this branch of the service has fully kept pace with those already mentioned. In 1889 there were 370 Post-office Savings Banks in various parts of the Colony—an increase of thirty-five over the number in the previous year. During the year 30,433 new accounts were opened, and 25,410 accounts were closed. The number of accounts remaining open at the close of the year was 76,288. The number of deposits received was 208,174, and the amount was £1,115,863, being an increase of 12,054 in the number, and a decrease of £103,137 in the amount, as compared with the business of the previous year. The sum of £61,871 was added to depositors' accounts for interest. The balance to the credit of depositors at the end of the year was £1,729,891. The average amount of each deposit was £5 7s. 2¼d., and the average balance at the credit of each depositor was £22 13s. 4d. Further information respecting the Post-office Savings Banks will be found in the chapter on Finance and Public Wealth.

TELEGRAPHS.

Electric telegraphs.

The electric telegraph was first opened to the public of New South Wales on 26th January, 1858, when the line from Sydney to Liverpool, 22 miles in length, was instituted. From this small beginning the system has increased until in 1889 there were 485 stations in the Colony, and 22,606 miles of wire in actual use. The following table gives a view of the business of the Electric Telegraph Department, from 1877 to 1889:—

Electric Telegraphs.

Year.	No. of Stations.	No. of Telegrams.	Total Receipts.	Revenue received.	No. of miles of Wire.	Cost of construction.
			£	£		£
1877	190	1,001,884	96,358	65,645	9,761	343,973
1878	236	1,132,287	98,125	76,227	11,760	413,258
1879	273	1,175,218	103,033	80,490	12,426	437,120
1880	289	1,319,537	123,172	84,110	13,188	462,226
1881	318	1,607,206	125,336	98,665	14,278	492,211
1882	345	1,965,931	153,555	120,266	15,901	536,400
1883	368	2,107,288	165,276	134,643	17,272	564,316
1884	394	2,334,052	176,261	146,386	18,681	601,460
1885	404	2,625,992	191,192	155,074	19,864	641,669
1886	425	2,661,126	184,053	158,128	20,797	666,028
1887	434	2,876,504	187,858	164,511	21,444	684,600
1888	460	3,410,407	213,869	185,965	22,219	704,912
1889	485	3,433,562	213,776	186,862	22,606	713,663

At the close of 1889 there were 10,732 miles of line open, and 293 under construction.

Construction in various countries.

The state of telegraphic construction in the principal countries of the world at the latest available dates is given herewith. The figures are interesting, though the circumstances of Australasia and the older countries are so dissimilar as to make comparison between them more curious than valuable :—

Length of Telegraph Lines in various Countries.

Country.	Length in Miles—		Country.	Length in Miles—	
	Of Lines.	Of Wires.		Of Lines.	Of Wires.
Australasia	39,505	75,335	India, British.. ...	31,895	93,517
Argentine Republic	18,336	42,632	Italy	22,186	74,820
Austro-Hungary ..	36,703	109,286	Japan	5,880	15,609
Belgium..............	3,990	19,010	Mexico	27,861	46,000
Brazil.................	6,657	11,481	Netherlands	3,094	10,876
			Portugal	3,190	7,420
Canada, Dominion of..................	26,522	51,820	Russia...............	87,714	171,525
Chili	10,640	15,835	Spain	11,078	26,890
Denmark	2,681	7,258	Sweden & Norway	10,719	23,535
France	65,104	240,978	Switzerland	4,418	10,868
Germany	57,369	204,659	Turkey ,............	15,000	28,000
Great Britain and Ireland..........	48,569	260,679	United States of America	248,920	776,289
Greece	4,334	5,030			

PART XVII.

Law and Crime.

THE law of New South Wales permits proceedings against any person charged with crime to be initiated either by arrest or by summons. During 1889 there were 65,568 cases dealt with by the magistrates; in 38,345 of these the persons charged with offences were arrested, and in 21,614 cases they were summoned by the police; while in the remaining 5,609 cases proceedings were taken by private persons.

ARRESTS.

Persons brought before magistrates.

Out of 65,568 persons brought before the magistrates of the Colony 64,076 were dealt with summarily, and convictions recorded in 48,703 cases; while 15,373 cases were dismissed either on their merits, or for want of prosecution; in the remaining cases, 1,492 in number, the persons concerned were committed for trial in the higher Courts of the Colony. Dividing the offences into three subdivisions—those committed against the person, those against property, and offences against good order or government—the numbers of persons brought before the Magistrates' Courts, and the manner in which they were dealt with during 1889, were as follows:—

Number of Persons dealt with by Magistrates.

Offences.	Total number of persons brought before the Magistrates' Courts.	Number of persons.			
		Discharged for want of prosecution or want of evidence.	Whose cases were dismissed on the merits.	Summarily convicted.	Committed for trial.
Against the person........	8,363	2,162	1,158	4,658	385
Against property	7,852	1,693	1,226	3,931	1,002
Other cases*	49,353	6,287	2,847	40,114	105
Total number of persons summoned or apprehended......	65,568	10,142	5,231	48,703	1,492

* Not including cases brought up for lunacy.

Summary convictions.

Civil actions are not included in this table, but it includes arrest or summonses for breaches of various Acts, and for other offences, which, from a moral point of view, are not to be reckoned as crimes, although they are such in the eyes of the law. The total number of summary convictions for all offences shows a considerable decrease during 1889, being 48,703 as compared with 50,876 in the previous year, and 53,614 in 1887. These figures disclose the gratifying fact, that while the population has increased the number of offenders against the law continues to decrease. The following table gives the number of summary convictions before magistrates during the past twelve years :—

Summary Convictions before Magistrates.

Year.	Offences against the person.	Offences against property.	Other Offences.	Year.	Offences against the person.	Offences against property.	Other Offences.
1878	5,014	3,087	29,823	1884	5,810	3,594	48,502
1879	4,885	3,217	30,726	1885	5,159	3,649	50,537
1880	5,151	3,286	33,768	1886	5,187	3,676	53,405
1881	5,239	3,453	42,438	1887	4,667	3,876	45,071
1882	5,350	4,014	40,762	1888	4,779	4,669	41,428
1883	6,257	3,395	45,811	1889	4,658	3,931	40,114

Arrests by police.

The number of arrests made by the police was less during 1889 than in any of the eight previous years, and the percentage of the whole population was the smallest yet recorded :—

Arrests by Police.

Year.	Arrests.	Proportion of whole population.	Year.	Arrests.	Proportion of whole population.
1878	30,718	4·66	1884	46,199	5·24
1879	32,860	4·75	1885	48,261	5·18
1880	35,774	4·92	1886	48,854	4·99
1881	41,402	5·44	1887	44,094	4·31
1882	39,758	5·00	1888	42,579	4·00
1883	43,177	5·17	1889	38,345	3·47

Number of Police.

The number of police in the Colony during the years 1884-89 was

Year.	Metropolitan.	Country.	Total.
1884	423	947	1,370
1885	466	977	1,443
1886	476	986	1,462
1887	502	989	1,491
1888	518	995	1,513
1889	543	1,024	1,567

The protection of life and property does not form the whole of the duty performed by the police in this Colony; on the contrary, a very large portion of their time is taken up with administrative duties, such as the collection of the electoral rolls, the agricultural and stock schedules, and returns of works and manufactories; in many instances, too, the police act as Clerks of Petty Sessions and Mining Wardens, and fill other offices having no direct connection with police duties. The test sometimes applied as to the law-abiding character of the population of the different colonies, as deduced from the apparent number of persons protected by one police officer, is entirely worthless unless the circumstances of the duties performed and the diverse areas of the colonies are made elements of such comparison. The numbers of police in the principal colonies, and the proportion to the civilian population, are however given in the following table for what they may be worth:—

Police in different Colonies.

Colony.	Number of Police.	Proportion of Civilians to one Police.
New South Wales	1,567	703
Victoria	1,505	743
Queensland	769	515
South Australia	417	778
New Zealand	741	783

A comparison of cities is given on the next page, and it would appear that Sydney and Melbourne have proportionately less police supervision than the majority of places enumerated in the list.

This however, of itself, argues nothing in favour of the law-abiding character of the population of the two cities named, but rather that an increased number of police could with advantage be added to the force now employed for their protection :—

Cities.	Strength of Police.	Population to each Police Constable.	Cities.	Strength of Police.	Population to each Police Constable.
Sydney	543	702	New York	3,174	472
Melbourne	620	778	Philadelphia	1,624	643
Brisbane	189	459	Chicago	1,050	810
Adelaide	197	613	Brooklyn	777	975
London	14,081	389	St. Louis	502	900
Glasgow	1,093	503	Baltimore	575	765
Edinburgh	500	500	Boston	780	540
Manchester	940	401	San Francisco ...	404	790
Belfast	800	287	Cincinnati	388	909

Ages and offences of persons arrested.

The ages of persons arrested for various classes of offences during the year 1889 are given below. It will be seen that the most serious offences were charged against persons between the ages of 20 and 30, while those against good order, consisting chiefly of drunkenness, were committed by persons from 30 to 50 years :—

Ages of Persons Arrested.

Offences.	Ages of persons apprehended.							Total apprehensions.
	Under 15	15-20	20-30	30-40	40-50	50-60	Over 60	
Against the person	14	174	975	577	274	124	47	2,185
Against property, with violence	23	54	157	61	31	6	4	336
Against property, without violence	519	821	1,964	1,232	578	273	120	5,507
Forgery and offences against the currency ...	2	17	71	43	8	6	9	156
Against good order, including drunkenness ...	528	1,320	7,538	7,759	5,931	3,246	1,794	28,116
Not included in the preceding	18	141	718	582	354	166	66	2,045
Total	1,104	2,527	11,423	10,254	7,176	3,821	2,040	38,345

Ages of offenders.

The number of arrests of persons at each period of life, with the exception of under 15 years, was less than in 1888. The arrests of juvenile offenders were much larger than in any former year. The proportion of offences committed at the respective ages is given herewith. It will seen that the percentage of offenders under 15 years is much higher than in any year embraced by the table :—

Percentage of Arrests at various Ages to Total Arrests.

Year.	Years 10-15.	Years 15-20.	Years 20-30.	Years 30-40.	Years 40-50.	Years 50-60.	Years over 60.
1879	2·19	6·76	28·22	27·93	19·17	9·33	6·40
1880	2·12	6·94	29·24	26·90	18·69	9·77	6·34
1881	2·11	5·43	28·98	27·22	20·31	9·74	6·21
1882	1·93	4·83	27·82	26·58	20·79	10·69	7·36
1883	1·94	5·80	28·98	26·08	20·45	10 40	6·35
1884	1·68	5·81	29·51	26·02	20·35	10·61	6·01
1885	1·73	5·38	30·25	26·47	20·42	9·77	5·98
1886	1·64	5·90	29·98	26·13	20·54	10·28	5·53
1887	1·88	6·29	29·82	26·86	19·50	10·17	5·48
1888	2·40	6·51	29·70	26·07	19·39	10·55	5·48
1889	2·88	6·59	29·80	26·74	18·71	9·96	5·32

Absence of serious crime amongst native-born population.

The native-born population of New South Wales probably numbers not less than 64 per cent. of the whole, while the persons arrested during 1889 who were born in the Colony numbered 12,949 out of a total of 38,345 arrests, or 33·7 per cent. In connection with this matter, however, it should be borne in mind that the great bulk of the population under 15 years are also native born. The native countries of all persons apprehended during 1889 will be found in the following table, as well as the offences for which the arrests were made :—

Country.	Against the person.	Against property, with violence.	Against property without violence.	Forgery and offences against the currency.	Against good order, including drunkenness.	Not included above.	Total.
New South Wales	915	190	2,624	52	8,593	575	12,949
Other Australian Colonies	173	49	504	20	1,852	152	2,750
England	417	44	1,061	51	6,254	521	8,348
Ireland	341	24	586	11	7,163	363	8,488
Scotland	107	10	259	8	2,226	155	2,765
Other British possessions	39	3	69	3	345	30	489
France	19	1	44	2	154	7	227
Germany	31	2	97	2	331	53	516
China	47	6	75	....	137	29	294
Other foreign countries	96	7	188	7	1,061	160	1,519
Total	2,185	336	5,507	156	28,116	2,045	38,345

Nominal religious professions of prisoners.

The nominal religious profession of each person arrested is ascertained and entered in the charge-sheet. During 1889 the arrests of persons belonging to each of the various denominations were :—

Religions of Persons Apprehended, 1889.

Religion.	Against the person.	Against property, with violence.	Against property, without violence.	Forgery and offences against the currency.	Against good order, including drunkenness.	Not included above.	Total.
Church of England...	877	108	2,466	96	10,392	823	14,762
Presbyterians	148	16	381	12	2,506	189	3,252
Wesleyans...............	46	11	182	1	428	53	721
Independents	2	....	23	1	25	7	58
Baptists.....	15	1	23	....	72	14	125
Other Protestants......	25	2	118	2	391	92	630
Roman Catholics	922	182	2,036	34	13,174	714	17,062
Jews	14	1	67	2	57	11	152
Pagans	45	7	62	1	161	35	311
Other persuasions, or religion unknown...	91	8	149	7	910	107	1,272
Total.........	2,185	336	5,507	156	28,116	2,045	38,345

Education of persons arrested.

The degree of education of those who were arrested has also been obtained as far as possible. Four grades of education are adopted for classification purposes, and the number comprised in each class during the years from 1877 to 1889 is given below :—

Degrees of Education of Persons Arrested.

Year.	Neither read nor write.	Read only.	Read and write.	Superior education.	Total arrests.
1877	3,842	1,269	23,238	.. ..	28,349
1878	4,017	1,529	25,172	....	30,718
1879	3,493	1,230	27,984	153	32,860
1880	4,065	1,197	30,350	162	35,774
1881	4,034	1,123	36,083	162	41,402
1882	4,059	964	34,553	182	39,758
1883	3,859	1,058	38,071	189	43,177
1884	3,871	1,096	41,030	202	46,199
1885	3,925	937	43,185	214	48,261
1886	4,142	916	43,588	208	48,854
1887	3,873	709	39,295	217	44,094
1888	3,730	848	37,734	267	42,579
1889	3,256	642	34,239	208	38,345

Effect of education on crime.

A superficial glance at the figures would seem to show that the progress of education has not been attended with that decrease in crime, which the friends of education confidently expect to follow in its train. But it must always be remembered that although the proportion of persons arrested who can read and write has much increased of late years, such increase is due to the spread of education, even amongst those whose environment offers inducement to the commission of crime.

The following table gives the percentage of persons arrested of each degree of education from 1877 to 1889 :—

Year.	Neither read nor write.	Read only.	Read and write.	Year.	Neither read nor write.	Read only.	Read and write.
1877	13·55	4·47	81·98	1884	8·37	2·37	89·26
1878	13·07	4·97	81·96	1885	8·13	1·94	89·93
1879	10·62	3·74	85·64	1886	8·49	1·87	89·64
1880	11·36	3·34	85·30	1887	8·78	1·61	89·61
1881	9·74	2·71	87·55	1888	8·76	1·99	89·25
1882	10·20	2·42	87·38	1889	8·49	1·67	89·84
1883	8·93	2·45	88·62				

Effect of education on crime.

The best proof of the effect of the spread of education on crime is the notable decrease in the number of committals and convictions for serious offences, which has for many years been observable. Although the direct effect of the spread of enlightenment cannot be otherwise gauged, there is ample evidence to warrant the assumption that education is doing its work as an active leaven throughout the community.

Drunkenness.

The question of the relative prevalence of drunkenness, as tested by the number of persons arrested for that offence in the different colonies, has received of late no little attention, and it has been made to appear that New South Wales in this regard holds a bad pre-eminence. The total arrests for drunkenness and the number per 1,000 of population in the different colonies, for the latest available years, were :—

Arrests for Drunkenness in Australian Colonies.

	Total Arrests.	Arrests, per 1,000 of population.
*New South Wales	18,355	16·6
*Victoria	18,068	16·4
Queensland	6,206	16·5
South Australia	2,388	7·5
Tasmania	1,145	7·9
New Zealand	5,692	9·4

* 1889. Other Colonies, 1888.

Deduction from number of arrests misleading.

These figures show a somewhat unexpected result. During 1889 the arrests for drunkenness in New South Wales exhibit a very gratifying decrease as compared with those of the previous year, which reached a total of 21,129. On the other hand the arrests for similar offences in Victoria, in 1888, show an advance upon the figures for 1887, which were only 15,578. The returns of the other colonies are very much alike for the two years. But an argument founded solely on the number of arrests for drunkenness is misleading, for a great deal depends upon the state of the law and the manner in which it is administered. The quantity of intoxicants consumed per head of the community is, perhaps, a better guide, though not always a safe indication, unless the manners and customs of the people are also taken into consideration. But where the habits of communities are so similar as is the case in regard to the Australasian Colonies, the consumption per head is a tolerably fair test. Tried by this standard, New South Wales occupies a very favourable position. It will be noticed that the consumption of intoxicants per head is largest in Victoria, which stands second as regards arrests for drunkenness, being only 458 below New South Wales, as will be seen from the following table :—

Consumption of intoxicants in the various Colonies.

Consumption of Intoxicating Drink.

Colony.	Average consumption per head.			
	Spirits.	Beer.	Wine.	Total equivalent in alcohol (proof)
	Gallons.	Gallons.	Gallons.	Gallons.
New South Wales*..	1·05	10·89	0·83	2·70
Victoria	1·20	19·82	1·10	4·11
Queensland	1·69	11·05	0·57	3·28
South Australia	0·54	14·07	1·16	2·71
New Zealand	0·82	7·13	0·17	1·79
Tasmania	0·64	8·41	0·16	1·89
Australasia............	1·06	13·09	0·77	2·99

* New South Wales, 1889. Other Colonies, 1888.

The administration of the law appears to be very different in Victoria from that in New South Wales, as will appear from the nature of the offences with which persons apprehended were charged, though it is possible that all cases did not correspond with the charge. Thus in 1888 the following were the arrests in each Colony :—

New South Wales and Victoria compared.

Arrests for Drunkenness.

	New South Wales.		Victoria.	
	1888.	1889.	1888.	1889.
Drunkenness	15,889	13,809	Nil.	Nil.
Habitual drunkenness	80	101	120	90
Drunkenness and disorder ...	5,160	4,445	18,406	17,978
Total	21,129	18,355	18,526	18,068

These figures at once dispose of the theory so persistently put forward as to the excessive prevalence of drunkenness in New South Wales, and the more effectually when it is borne in mind that the number of males engaged in laborious work is far larger here than in any other colony.

Arrests for drunkenness in towns.

The persons arrested for drunkenness are chiefly residents in or near large towns, and it is only natural to expect that, with an increase in the number and population of the towns, there will be an increase in the arrests for drunkenness. The number of arrests during each year since 1878 is shown in the following table, and it will be satisfactory to note the great decrease in the percentage of females arrested. And as the proportion of males arrested has maintained a high percentage for many years, due possibly to the greater increase in the urban than in the rural population, and consequently the larger number of persons whose inebriety has come under the attention of the local police, it is very gratifying to find a considerable decrease in 1889, both of the total number and the percentage to the population. Much stress cannot, however, be laid on the falling off in the arrests, if there were not other evidence of the decrease of drunkenness; as a word of instruction from the Inspector-General of Police could, according to its tenor, increase or decrease the number of those apprehended on this charge. The decline in arrests apparently follows a marked decrease in the consumption of intoxicants, so that it may be fairly assumed that drunkenness is on the wane:—

Female drunkards decreasing.

General decrease in drinking habits.

Persons Arrested for Drunkenness, with percentage of Total Population.

Year.	Total arrests.	Males.	Females.	Percentage of total arrests to whole population.	Percentage of males arrested to total male population.	Percentage of females arrested to total female population.
1878	17,224	13,116	4,108	2·61	3·67	1·37
1879	17,715	13,574	4,141	2·56	3·61	1·31
1880	18,777	14,801	3,976	2·58	3·72	1·21
1881	22,560	18,200	4,360	2·96	4·36	1·26
1882	21,393	17,574	3,819	2·69	4·03	1·06
1883	23,178	19,244	3,934	2·77	4·21	1·04
1884	24,438	20,261	4,177	2·77	4·19	1·04
1885	26,291	21,944	4,347	2·82	4·29	1·03
1886	26,310	21,879	4,431	2·69	4·06	1·01
1887	22,706	19,229	3,477	2·22	3·42	0·76
1888	21,129	17,438	3,691	1·98	2·97	0·77
1889	18,355	14,887	3,468	1·66	2·44	0·70

Consumption of spirits per head.

The quantity of spirits consumed per head of population in 1889 was only about 76 per cent. of the consumption nine years previously, and the decline has been fairly regular, as will be seen from the following table :—

Consumption of Spirits per Head.

Year.	Imported.	Colonial.	Total.	Year.	Imported.	Colonial.	Total.
	Gallons.	Gallons.	Gallons.		Gallons.	Gallons.	Gallons.
1880	1·37	·017	1·38	1885	1·29	·015	1·30
1881	1·45	·008	1·46	1886	1·19	·010	1·20
1882	1·45	·012	1·46	1887	1·10	·015	1·11
1883	1·43	·024	1·45	1888	1·08	·016	1·10
1884	1·41	·020	1·43	1889	1·14	·020	1·05

Consumption of intoxicants decreasing.

There has also been, in all probability, a falling off in the amount of beer and wine consumed, but the statistics which would illustrate this view are available for only a few years. The total amount of intoxicants consumed in the Colony can best be compared by reducing the various kinds of drink to the common level of proof spirit. The average consumption of spirit per inhabitant during the years 1883–89 was :—

Year.	Gallons.
1883	3·52
1884	3·53
1885	3·37
1886	3·23
1887	2·97
1888	2·88
1889	2·70

Decrease in drunkenness.

If the number of persons who render themselves liable to arrest may be fairly assumed to be in direct proportion to the amount of intoxicants consumed, a decrease in consumption is necessarily a sign of increased sobriety.

Habitual drunkenness.

The offence of habitual drunkenness has declined perceptibly, as will be seen from the following table, showing the number of persons arrested, with percentage of arrests to total arrests for drunkenness, 1880–89. It will be seen that fewer persons were arrested during 1888 than in any year shown by the table, but 1889 shows a small increase :—

Habitual Drunkenness.

Year.	Number.	Percentage of arrests to total arrests for drunkenness.	Year.	Number.	Percentage of arrests to total arrests for drunkenness.
1880	107	0·56	1885	116	0·44
1881	101	0·54	1886	113	0·43
1882	141	0·65	1887	119	0·52
1883	100	0·43	1888	80	0·38
1884	108	0·44	1889	101	0·55

The following statement shows the character of the offences for which arrests were made during each year since 1889, and affords material for interesting study :—

Year.	Murder.		Attempt to Murder.		Manslaughter.		Wounding with Intent.		Unnatural Offence.	Rape	Assault with intent to commit rape.	Carnally abusing girl under 12 years.	Indecent Assault.	Bigamy.		Concealment of Birth.		Horse-stealing.		Cattle-stealing.		Sheep-stealing.		Embezzlement.		Arson.		Total.
	M.	F.	M.	F.	M.	F.	M.	F.	M.	M.	M.	M.	M.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
1879	16	5	20	2	18	2	199	30	28	25	32	6	22	4	1	...	2	294	6	53	...	57	6	57	1	20	2	918
1880	19	10	19	...	22	5	172	24	19	16	37	9	33	8	7	...	7	314	1	51	1	34	3	83	...	24	2	910
1881	27	8	8	1	21	3	139	16	14	16	47	16	16	5	4	...	6	241	1	44	3	64	4	65	1	23	4	797
1882	15	4	10	...	22	2	156	11	14	19	58	9	20	9	3	1	5	241	1	47	...	50	1	77	1	42	4	822
1883	30	9	10	3	20	4	161	27	14	19	43	6	41	11	3	..	10	217	1	35	2	19	1	104	...	34	6	830
1884	21	6	16	1	46	6	173	20	14	13	43	5	55	4	4	...	4	211	1	39	4	38	1	113	2	38	5	883
1885	18	3	15	2	9	2	166	20	22	22	30	10	48	12	5	1	8	183	2	36	...	22	3	153	1	35	5	833
1886	27	9	8	3	21	3	165	23	25	62	45	10	40	11	3	...	9	163	..	34	1	37	2	162	1	25	1	890
1887	7	6	10	2	11	...	128	12	33	23	37	19	56	9	3	...	6	170	2	45	..	34	...	164	1	32	4	814
1888	11	7	8	1	29	2	173	11	16	21	37	11	50	10	4	...	6	172	3	28	2	20	...	165	...	40	2	829
1889	12	2	9	2	17	1	107	6	18	16	25	6	40	5	2	...	3	144	1	31	1	26	...	180	2	25	2	683

Epidemics of crime.

An inspection of the table just given will show how curiously an epidemic of a particular kind of crime sometimes appears to set in. Thus, with regard to murder, the average annual number of arrests for that crime during the first ten years in question was 26, but in 1881 there were as many as 35, in 1883 there were 39, and in 1886 there were 36 such cases. Attempts to murder averaged 14 cases a year, whereas in 1879 there were 22. The apprehensions for rape averaged less than 24 annually, but in 1886 no fewer than 62 such cases turned up. In 1884 there were 55, and in 1887 there were 56 charges of indecent assault, the average for the ten years being only 38. Horse-stealing was in vogue in 1879 and 1880, the apprehensions on such charges in those years having been 300 and 315 respectively, as against a decennial average of 222. Cattle-stealing flourished in the same two years, as shown by a record of 53 and 52 cases, the average for ten years being 42 Sheep-stealing reached its maximum in 1881, when there were 68 cases, the average being less than 40. The records of embezzlement are perhaps the most curious. The average for the ten years was 115 cases, but the list began with 58 in 1879, increasing to 104 in 1883, and reaching 115, or the average, in 1884. Since then the table shows a continuous increase. The cases numbered 154 in 1885, 163 in 1886, and 165 in each of the two succeeding years. It would thus appear that from 1879 to 1882 crimes of horse and cattle stealing were epidemic: in two of those years 820 persons were arrested for these offences. From 1882 to 1885 arson was rife. From 1885 to the present date embezzlements showed a very large increase over previous years. Murders and murderous assaults were frequent in 1883 and 1884; and lust and unnatural offences in 1886 and 1887.

PUNISHMENTS.

Punishments inflicted by magistrates.

Of the 65,568 persons brought before the magistrates of the Colony during 1889, 48,703 were summarily convicted, and of these 4,821 were imprisoned without the option of a fine. In

Nature of punishments inflicted.

no case was the punishment of whipping inflicted. In the great majority of cases fines were inflicted, or imprisonment with the option of paying a fine instead. The nature of the punishments, with the offences for which they were awarded, are given in the following table, for the year 1889 :—

Number of Summary Convictions, Nature of Offences and of Punishments inflicted by Magistrates.

Punishment.	For offences against the person.	For offences against property.	For other offences.	Total number of punishments.
Fine, levy and distress	1,517	776	16,901	19,194
Fine or surety, or in default, imprisonment	2,221	866	19,361	22,448
Peremptory imprisonment ...	495	2,084	2,242	4,821
Bound over, with or without sureties........................	165	20	69	254
Other punishments..............	260	185	1,541	1,986
Total..................	4,658	3,931	40,114	48,703

Cases in which fines were inflicted.

The number of persons fined, with the alternative of imprisonment, was 22,448; and of these 15,297 availed themselves of the option of paying the fine. The remaining 7,151 suffered imprisonment, in addition to 4,821 sentenced to peremptory imprisonment, making a total of 11,972 persons imprisoned, out of 48,703 summarily dealt with by the magistrates, or 24·6 per cent. Adding 19,194, the number fined (levy and distress) to 15,297, the number who paid rather than be incarcerated, gives 34,491 as the total number of fines paid during the year.

Decrease in committals for trial.

Omitting from consideration summons cases, and dealing only with arrests by the police, three facts are noticeable—that the percentage of arrests to the total population has fluctuated considerably during the past ten years, though there has been a decided tendency towards decrease recently; that the number of con-

Convictions increasing.

victions obtained is now proportionately greater than formerly; and that the number of committals for trial to the superior courts shows a remarkable tendency to decrease. The following table gives the average for twelve years:—

Proportion of Convictions and Committals in Magistrates' Courts, compared with Arrests.

Year.	Arrests.	Summarily convicted.	Summarily acquitted or discharged.	Committals.
	Percentage of arrests to the whole population.	Percentage of summary convictions to total arrests.	Percentage of those acquitted or discharged to total arrests.	Percentage to total arrests.
1878	4·66	75·58	18·94	5·48
1879	4·75	77·63	17·52	4·85
1880	4·92	76·94	18·36	4·70
1881	5·44	79·86	16·29	3·85
1882	5·00	78·94	17·07	3·99
1883	5·17	82·08	14·26	3·66
1884	5·24	80·99	15·59	3·42
1885	5·18	82·89	14·07	3·04
1886	4·99	82·24	14·79	2·97
1887	4·31	81·57	15·33	3·10
1888	4·00	79·89	16·77	3·34
1889	3·47	78·81	17·43	3·76

Decrease in committals for trial.

The proportion of offences deemed of sufficient gravity to be tried by a jury has largely decreased during the past twenty-five years, and the proportion of prisoners convicted also shows a substantial reduction. This will be plainly seen from a consideration of the following table:—

Committals and Convictions in Superior Courts.

Year.	Committals for trials.	Convictions.	Proportion of population committed.	Proportion of population convicted.
			Per 10,000 of population.	Per 10,000 of population.
1861	820	437	23·2	12·3
1862	879	514	24·2	14·1
1863	887	497	23·8	13·3
1864	975	590	25·3	15·3
1865	1,123	686	27·7	19·9
1866	1,255	770	29·9	18·3
1867	1,180	702	27·0	16·0
1868	1,006	601	22·1	13·2
1869	1,112	682	23·5	14·4
1870	1,037	601	21·1	12·2
1871	1,084	628	21·3	12·3
1872	1,073	643	20·3	12·2
1873	1,166	647	21·4	11·8
1874	1,311	700	23·2	12·4
1875	1,245	707	21·2	12·0
1876	1,391	822	23·0	13·6
1877	1,411	829	22·4	13·1
1878	1,740	959	26·4	14·5
1879	1,743	1,090	25·2	15·7
1880	1,717	1,148	23·6	15·8
1881	1,626	1,058	21·3	13·9
1882	1,724	1,065	21·6	13·4
1883	1,606	1,008	19·2	12·0
1884	1,550	928	17·5	10·5
1885	1,540	785	16·5	8·4
1886	1,594	957	16·2	9·7
1887	1,402	854	13·7	8·3
1888	1,561	915	14·7	8·6
1889	1,595	910	14·4	8·2

Convictions of persons committed.

It will be seen that the number of convictions obtained in 1889 averaged not more than 57·05 per cent., while for the past twelve years the proportion convicted or discharged, per hundred persons committed for trial, was as follows :—

Percentage of Convictions.

Year.	Percentage of committals.		Year.	Percentage of committals.	
	Convicted.	Acquitted or discharged.		Convicted.	Acquitted or discharged.
1878	56·11	44·89	1884	59·87	40·13
1879	62·54	37·46	1885	50·97	49·03
1880	66·86	33·14	1886	60·04	39·96
1881	65·07	34·93	1887	60·91	39·09
1882	61·77	38·23	1888	58·62	41·38
1883	62·76	37·24	1889	57·05	42·95

Causes of apparent high rate of crime.

The convictions in the higher courts of New South Wales, taken over a series of years, greatly exceed, both in number and in proportion, those of any other Colony. So marked is this fact that much speculation has been indulged in as to the probable cause of the anomaly. It is admitted that the people of all the colonies are practically derived from the same stock, while their occcupations and habits of life are fairly alike, and a theory has been hazarded that the high rate of crime in New South Wales is due to a blood taint derived from the original bond-population of this Colony. Such theory is manifestly absurd, as Tasmania, the colony which received proportionately the largest number of convicts, and whose population has been least diluted by immigration, has now and for many years the most favourable record of convictions.

Gold-fields attracted criminal population.

Besides this, Victoria stands second lowest on the list, and there is every testimony that the large gold-finds of that colony, in the years succeeding the final cessation of transportation, attracted the worst classes of all these settlements, especially those of New South Wales and Tasmania. There is, however, no evidence that such a population now exists anywhere in these colonies: it certainly does not exist in New South Wales. But, though the gratuitous theory above alluded to may be easily disposed of, the fact remains that the largest proportion of convictions in the higher courts occurs in New South Wales, as the following table shows :—

Convictions after Trial in Australasian Colonies.

		Per 10,000 of population.
New South Wales*	910	8·24
Victoria	557	5·24
Queensland	275	7·40
South Australia	208	6·65
Tasmania	66	4·57
New Zealand	334	5·60

* 1889; other Colonies, 1888.

Western Australia has been omitted from the comparison, as its sparse population and peculiar situation would warrant the anticipation of a large amount of crime of a kind not found in the older settled colonies.

Criminals come from floating population.

There has been in New South Wales for many years a large population whose abode in any district is determined by the existence of a demand for unskilled labour, and it is from the ranks of this floating population that a large proportion of the persons convicted of crime is derived. All the colonies have, to a greater or less extent, this class of population; but in New South Wales it is numerically the largest. As these people settle down to regular employment in a fixed abode and acquire interests apart from the excitements of an unsettled life, crime will be found to diminish. The neighbouring colony of Victoria, where the decrease of convictions has steadily kept pace with the settlement of its population, may be cited as an example of this truth, the proportion of convictions being now reduced to about 5·24 per ten thousand, as compared with 10·1 in 1866.

Strict administration of law in N. S. Wales.

The laws relating to crime are somewhat similar in all the colonies; but the administration of these laws may possibly be more rigorous in New South Wales than in any other colony. This has already been shown to be the case in regard to drunkenness, and offers an additional explanation of the large number of convictions obtained in New South Wales.

Capital punishment.

Executions have been less numerous of late years than formerly, the dread penalty being carried out in only a small proportion of cases wherein the death sentence has been pronounced. The number of executions since 1824 is given herewith. In three years only have there been no executions. Four females have been hanged during the period in question:—

Number of Capital Convictions and Executions, 1825 to 1889.

Year.	Convictions.	Executions.	Year.	Convictions.	Executions.	Year.	Convictions.	Executions.
1825	54	9	1847	10	6	1869	6	......
1826	72	21	1848	6	5	1870	3	......
1827	93	29	1849	6	4	1871	11	3
1828	106	28	1850	5	4	1872	19	3
1829	112	52	1851	8	2	1873	10	4
1830	136	50	1852	10	5	1874	14	3
1831	143	32	1853	4	2	1875	8	2
1832	156	12	1854	11	6	1876	15	4
1833	135	31	1855	12	5*	1877	9	2
1834	148	44	1856	7	......	1878	12	1
1835	142	40	1857	9	4	1879	21	1
1836	79	26	1858	9	1	1880	21	4
1837	90	12	1859	10	7	1881	6	2
1838	130	19	1860	11	5*	1882	14	3
1839	53	22	1861	32	2	1883	9	1
1840	13	8	1862	18	6	1884	8	2
1841	27	18	1863	16	6	1885	11	3
1842	47	13	1864	5	2	1886	22	2
1843	22	8	1865	10	3	1887	4	4
1844	22	8*	1866	20	6	1888	17	2
1845	15	3	1867	19	4	1889	4	3*
1846	11	1	1868	13	5			

* One female.

The following is a return of offences for which persons were hanged; also, the number of convictions for these offences.

Year.	Murder and Attempt at Murder.		Rape.		Attempts at Rape. (convictions.)
	Executions.	Convictions.	Executions.	Convictions.	
1862	5	16	1	2	....
1863	6	12	....	1	....
1864	2	7	....	2	....
1865	3	7	....	2	1
1866	5	19	1	2	2
1867	4	17	....	1	4
1868	5	12	....	1	....
1869	....	4	....	5	....
1870	....	3	....	6	....
1871	3	9	....	2	2
1872	3	14	....	5	4
1873	4	9	....	1	3
1874	2	7	1	7	10
1875	1	7	1	1	4
1876	4	12	....	3	3
1877	2	4	....	5	....
1878	1	8	....	4	3
1879	....	16	1	5	3
1880	4	15	....	6	....
1881	1	3	1	3	6
1882	3	10	....	4	3
1883	1	8	....	1	3
1884	2	7	....	1	....
1885	3	9	....	2	....
1886	2	10	....	12	9
1887	....	3	4*	1	....
1888	2	15	....	2	....
1889	3	3	....	1	....

* Mount Rennie case; convicted in 1886.

Gaol accommodation.

There are in New South Wales 58 gaols of all kinds; of these 38 are distinguished as police gaols. There is accommodation for 1,764 prisoners in separate cells, and for 4,725 when more than one prisoner sleeps in a cell. On the 31st December, 1889, there were 2,370 prisoners in confinement, thus distributed:—

Prisoners and Prison Accommodation.

Prisons.	Prisoners.	Accommodation—one prisoner per cell.	Accommodation—more than one prisoner per cell.
Gaols	2,158	1,558	3,940
Police Gaols	212	206	785
Total..................	2,370	1,764	4,725

Decrease of prisoners.

The total number of prisoners received into the various gaols throughout the Colony during the year 1889 was 16,250—a lesser number than in any of the seven previous years. Nearly half of these were received at Darlinghurst Gaol, Sydney. As many were detained for only short periods the above total may appear large compared with the average number in confinement at any one time. The following table gives the number of prisoners received into gaol from 1882 to 1889, exclusive of debtors and those in transitu:—

Prisoners Received into Gaol.

Year.	Under sentence.		Trial, &c.		Total.		
	Males.	Females.	Males.	Females.	Males.	Females.	Total.
1882	10,326	3,918	2,762	407	13,088	4,325	17,413
1883	11,309	4,096	2,740	421	14,049	4,517	18,566
1884	12,836	4,161	2,988	413	15,824	4,574	20,398
1885	13,045	4,324	2,808	509	15,853	4,833	20,686
1886	12,650	4,382	3,003	539	15,653	4,921	20,574
1887	11,554	3,728	3,006	499	14,560	4,227	18,787
1888	10,519	3,712	3,364	455	13,883	4,167	18,050
1889	9,299	3,583	2,956	412	12,255	3,995	16,250

Prisoners in confinement.

The average number of persons in confinement during the year has not been ascertained, but the number in detention at the close of each year is known, and the figures for the past fourteen years will be found herewith. Prisoners have been classified under two heads—those under sentence, and those awaiting trial. The respective numbers of each of these classes for the period named were:—

Prisoners in Confinement at the close of each year.

Year.	Total persons in confinement.	Male.	Female.	*Under sentence.			Awaiting trial.		
				Male.	Female.	Total.	Male.	Female.	Total.
1876	1,490	1,267	223	1,154	203	1,357	113	20	133
1877	1,521	1,293	228	1,137	209	1,346	156	19	175
1878	1,781	1,512	269	1,318	251	1,569	194	18	212
1879	1,951	1,641	310	1,465	291	1,756	176	19	195
1880	2,121	1,759	362	1,610	349	1,959	149	13	162
1881	2,075	1,753	322	1,611	309	1,920	142	13	155
1882	1,935	1,646	289	1,497	274	1,771	149	15	164
1883	2,168	1,826	342	1,684	330	2,014	142	12	154
1884	2,464	2,115	349	1,966	337	2,303	149	12	161
1885	2,559	2,222	337	2,084	328	2,412	138	9	147
1886	2,501	2,119	382	2,018	369	2,387	101	13	114
1887	2,380	2,053	327	1,919	316	2,235	134	1	145
1888	2,353	2,044	309	1,931	301	2,232	113	8	121
1889	2,370	2,048	322	1,932	313	2,245	116	9	125

* Includes 12 debtors in 1889.

Classification of offences.

The prisoners under sentence may be divided into four classes according to the description of offence for which they were convicted, as in the following table:—

Offences of Prisoners under Sentence at close of each year.

Year.	Felony.		Petty larceny.		Assault.		Other offences.	
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.
1876	708	34	160	21	78	4	208	144
1877	798	57	81	16	32	3	226	133
1878	855	51	127	22	50	4	286	174
1879	911	42	176	29	70	21	308	199
1880	950	34	189	31	106	8	365	276
1881	825	18	201	15	78	5	508	271
1882	844	25	168	18	89	3	396	228
1883	802	47	263	26	138	15	481	242
1884	949	33	295	29	140	6	582	269
1885	1,047	33	307	47	162	10	568	238
1886	1,070	40	296	32	121	11	531	286
1887	1,024	30	221	28	137	3	519	255
1888	987	27	295	25	146	10	494	239
1889	1,051	29	293	34	140	4	436	246

Felons under arrest.

The number of felons detained under sentence was larger in 1886 than in any year of the series, and, although the figures of 1889 are very little above those of the previous year, it will be seen by the above table that a notable increase has taken place since 1883. This advance does not denote an increase in crime—for, as already shown, serious crime is decreasing in the community—but points rather to longer sentences. The increase in the term served by prisoners is due to the Criminal Law Amendment Act, which came into force on the 1st day of July, 1883, but sufficient time has not elapsed since the passing of the Act to trace any effect from its operations, beyond the increase in the term which felons are required to serve. The following table shows the average time served by each prisoner sentenced for felony :—

Average Term of Imprisonment served by Prisoners under Sentence for Felony.

Year.	Average sentence.	Year.	Average sentence.
	Years.		Years.
1878	1·39	1884	1·40
1879	1·27	1885	1·72
1880	1·21	1886	1·48
1881	1·15	1887	1·60
1882	1·22	1888	1·43
1883	1·20	1889	1·21

Ages of prisoners in gaols.

As in the case of the arrests, the largest number of prisoners at any age-period are those whose ages range from 20 to 30 years; but, proportionately to the numbers of the population, the ages of middle life, namely, from 30 to 50 years, are most productive of criminals. The following table gives the number and ages of persons sentenced to labour, imprisonment, or solitary confinement during the year 1889:—

Ages of Persons sentenced to Imprisonment.

Ages.	Sentenced to Labour.			To Imprisonment.			To Solitary Confinement.			To Death.	Total Prisoners Sentenced.		
	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Males.	Females.	Total.
Under 10 years..	1	..	1	..	..	.	..	..	..	..	1	..	1
10 to 20 ..	364	81	445	351	177	528	17	..	17	..	732	258	990
20 to 30 ..	1,445	328	1,773	1,649	810	2,459	5	3	8	2	3,101	1,141	4,242
30 to 40 ..	863	283	1,146	1,306	849	2,155	5	..	5	..	2,174	1,132	3,306
40 to 50 ..	522	143	665	1,001	585	1,586	1	2	3	..	1,524	730	2,254
50 and upwards	421	89	510	1,053	283	1,336	2	..	2	..	1,476	372	1,848
Totals ..	3,616	924	4,540	5,360	2,704	8,064	30	5	35	2	9,008	3,633	12,641

Number of persons convicted.

Taking the returns from all the gaols, it will be found that 8,392 distinct persons were convicted during the year 1889, of whom 6,788 were males, and 1,604 were females. The following tables show the ages of these prisoners, both male and female, and the number of times each was convicted during the year. The total number here given differs from that returned by the Comptroller-General of Prisons, the discrepancy being accounted for by the fact that the same prisoner sometimes serves sentences at different gaols, in which case he is counted as a distinct person in each gaol. In the figures given herewith the returns from all the gaols have been combined, and each person is credited with the total number of sentences received, whether served in one or several prisons:—

Males.

Ages.	Number of times Convicted during 1889.														
	1	2	3	4	5	6	7	8	9	11	12	15	19	20	Total.
8 years	1	..	..	..	..	..	..	..	..	..	..	..	..	..	1
9 ,,	......	..	..	..	..	..	..	..	..	..	..	..	..	..	......
10 ,,	4	..	..	..	..	..	..	..	..	..	..	..	..	..	4
11 ,,	2	1	..	..	..	..	..	..	..	..	..	..	..	..	3
12 ,,	10	..	1	..	..	..	..	..	..	..	..	..	..	..	11
13 ,,	13	2	1	..	..	..	..	..	..	..	..	..	..	..	16
14 ,,	31	2	1	..	..	..	..	..	..	..	..	..	..	..	34
15 ,,	44	3	..	..	..	..	..	..	..	..	..	..	..	..	47
16 ,,	81	9	1	1	..	..	..	..	..	..	..	..	..	..	92
17 ,,	92	9	3	2	..	..	..	..	..	..	..	..	..	..	106
18 ,,	101	12	7	..	1	..	..	..	..	..	..	..	..	..	121
19 ,,	159	16	5	1	..	1	..	..	..	..	..	..	..	..	182
20 ,,	130	21	11	1	..	..	..	..	..	..	..	..	..	..	163
21 ,,	177	18	10	3	..	..	..	..	..	..	..	..	..	..	208
22 ,,	184	19	14	6	1	..	..	1	..	..	..	..	..	..	225
23 ,,	142	19	5	1	..	..	..	..	..	..	..	..	..	..	167
24 ,,	159	17	10	1	1	2	..	..	..	..	..	..	..	..	190
25-30 years	1,190	179	63	13	7	3	4	2	1	..	..	..	..	..	1,462
30-35 ,,	762	95	29	21	2	2	1	1	..	..	..	1	..	..	914
35-40 ,,	576	101	37	9	7	2	..	1	1	..	..	..	..	..	734
40-45 ,,	483	84	36	7	3	2	2	..	1	..	..	..	..	..	618
45-50 ,,	358	63	22	13	5	3	3	3	..	..	..	..	..	..	470
50-55 ,,	281	52	22	5	..	..	2	1	..	..	..	..	..	1	364
55-60 ,,	180	39	6	2	2	3	3	1	..	1	1	..	..	..	238
60-65 ,,	156	22	11	3	2	3	3	..	..	..	..	..	..	..	200
65-70 ,,	80	13	5	2	1	..	..	..	..	..	..	..	1	..	102
70 and over	82	26	6	1	..	1	..	..	..	..	..	..	..	..	116
Total	5,478	822	306	92	32	22	18	10	3	1	1	1	1	1	6,788

Females.

Ages.	Number of times Convicted during 1889.																					
	1	2	3	4	5	6	7	8	9	10	1	12	13	14	15	16	17	18	19	20	21	Total.
13 years	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2
14 ,,	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
15 ,,	3	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	4
16 ,,	7	4	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	11
17 ,,	19	2	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	22
18 ,,	28	10	3	3	..	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	46
19 ,,	45	8	5	1	1	1	..	1	..	1	..	1	..	..	..	..	..	..	..	..	..	64
20 ,,	30	9	2	4	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	46
21 ,,	27	6	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	35
22 ,,	36	9	5	2	..	..	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	54
23 ,,	24	7	4	4	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	41
24 ,,	32	11	7	2	1	2	..	1	..	1	..	..	..	..	..	..	..	..	..	..	..	57
25–30 years	161	44	24	9	7	6	4	3	3	4	1	4	1	1	1	4	..	1	..	..	..	278
30–35 ,,	144	49	14	10	5	4	2	2	2	1	2	2	3	..	..	2	..	..	..	..	1	243
35–40 ,,	121	37	13	8	4	8	2	2	4	2	2	2	..	3	1	..	..	1	1	1	..	212
40–45 ,,	100	26	13	10	4	4	2	2	..	..	..	2	2	..	..	..	..	..	..	1	1	167
45–50 ,,	79	24	10	1	3	1	1	..	1	..	2	1	2	2	1	..	1	..	..	..	..	129
50–55 ,,	56	13	5	4	2	2	1	..	..	3	..	..	..	..	..	..	..	..	..	..	..	86
55–60 ,,	35	7	3	..	1	2	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	49
60–65 ,,	17	5	1	..	..	..	..	2	1	..	..	..	..	..	..	..	..	..	..	..	..	26
65–70 ,,	8	1	1	1	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	12
70 and over	13	4	1	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	19
Total	988	277	112	60	30	31	15	15	12	12	9	12	8	6	3	6	1	2	1	2	2	1,604

Of those convicted nine times 10 were between 25 and 50, 1 was 22, and 1 was between 60 and 65; 8 of those who served ten sentences were between 25 and 50, while 1 was only 19, and 3 were between 50 and 55. The eleven times convicted include 1 girl of 17, and 7 women between 25 and 50. Of those convicted twelve times 11 were between 25 and 50, and 1 was only 19. The rest of the many-convicted women were all between the ages of 25 and 50; the two who underwent imprisonment twenty times were between 35 and 45 years old, while of those who had 21 convictions recorded against them 1 was between 30 and 35, and the other between 40 and 45.

Total number of prisoners.

Birth-places of prisoners.

The total number of persons committed to gaol during 1889 is given by the Comptroller-General of Prisons as 8,827, but this, as already remarked, includes in some cases the same person reckoned in different prisons. Of the number just given 7,070 were males and 1,757 were females. Out of the 8,827 prisoners referred to, 3,308, or 37·48 per cent., were natives of New South Wales; 1,991, or 22·57 per cent., were natives of England and Wales; 1,620, or 18·35 per cent. came from Ireland; 541, or 6·13 per cent., from Scotland; 336, or 3·80 per cent., from Victoria; and 95, or a little over 1 per cent., were Chinese,—the remainder being of various nationalities. As regards religion, 3,393, or 38·44 per cent., described themselves as belonging to the Church of England; 4,221, or over 50 per cent., were Roman Catholics; 596, or 6·75 per cent., were Presbyterians; 207, or 2·34 per cent., were Wesleyans, and the remainder were distributed among a variety of denominations; 45 prisoners out of the 8,827 sentenced had had a superior education, and one of these was a female; 7,574, or 6,092 males and 1,482 females, could read and write; 207, or 127 males and 80 females, could read only; while 1,001 or 11·34 per cent. of the whole, could neither read nor write. Of this class there were 6 males between 10 and 15 years; 53 males and 9 females between 15 and 20; 87 males and 14 females between 20 and 25; 162 males and 21 females between 25 and 30; 178 males and 51 females between 30 and 40;

149 males and 52 females between 40 and 50; and 172 males and 47 females were 50 years and over.

Offences of prisoners.

As regards the offences for which these 8,827 prisoners were sentenced, it appears that 788 or 757 males and 31 females were incarcerated for felony, 1,304 or 1,140 males and 164 females for petty larceny, and among them was included the boy of 8 years of age previously alluded to; 573 were imprisoned for assaults, of whom 525 were males and 48 were females. For drunkenness and vagrancy 3,503 persons were imprisoned, 2,416 of whom were males, and 1,087 females. In this class was included one lad between 10 and 15 years of age. Under the head of "Other offences," 2,659 persons, of whom 2,232 were males, and 427 females, served terms of imprisonment.

Murder.

There were three male prisoners received into gaols during 1889 who had been convicted of murder, and sentenced to death. Of these two were executed and in the third case the death penalty was commuted to imprisonment for life. Six male prisoners were incarcerated for manslaughter, but in no case was the sentence heavy. In one instance the term of imprisonment was under a month; in another it was under six months; in a third the penalty was between six and twelve months; and in the other three cases a term of between one and two years was imposed. Seven males were sentenced for wounding with intent to murder, of whom 4 were condemned to between 10 and 15 years incarceration. 16 males were imprisoned for maliciously wounding, and 18 for inflicting grievous bodily harm. There were 5 men imprisoned for offences against women, and 5 for unnatural offences. 73 males were sentenced for breaking and entering, of whom 4 received the penalty of from 10 to 15 years each. 3 burglars were sentenced, one of whom got over 10 years imprisonment, and the other two were imprisoned for terms ranging between 5 and 10 years; 5 garrotters were heavily dealt with, one receiving a term of between 2 and 5 years, 3 between 5 and 10

Manslaughter.

Wounding.

Burglary.

years, and 1 between 10 and 15 years. Two males were in gaol for attempting to rob, and one for being an accessory after the fact of robbery with violence. 28 men were imprisoned for receiving, and having stolen property in possession, 67 for embezzlement, and 145 for obtaining money, &c., under false pretences. There were 41 male prisoners confined for forgery, one of whom got the full penalty of over 10 years. Larceny was the cause of the incarceration of 314 males, and 43 were serving penalties for sheep, pig, cattle, and horse stealing. Thefts of various kinds and fraudulent appropriation caused the imprisonment of 86 males, while perjury, bigamy, and other miscellaneous offences accounted for the incarceration of 21 more.

Larceny.

Female felons.

Of the females received into gaols for felony during the year, one was imprisoned for robbery, and 182 for larceny and attempts at that crime. One of these had a sentence of over 10 years, the case being one of long continued and systematic fraud. For stealing, receiving stolen property, and embezzlement, 16 women were in gaol, together with 3 for obtaining money under false pretences, and 4 for forging and uttering; 2 females were imprisoned for inflicting grievous bodily harm, 1 for perjury, 2 for fraudulent appropriation, 1 for felonious intent, and 2 for inciting to an indecent assault on a girl.

Male misdemeanants.

The males received into gaols for misdemeanors during 1889 numbered 8,115. Under the head of "maintenance" there were 93 prisoners, and 1,252 for breaches of the Police Act. Of this number 438 were for assaults, 334 for riotous behaviour, and 133 for indecent conduct. Breaches of the Vagrancy Act accounted for the presence of 2,135 prisoners. Of these 70 were punished for being unlawfully on premises, 639 for vagrancy, and 1,243 for improper language. 47 men were imprisoned for breaches of the Licensing Act, 30 of whom suffered for refusing to pay for liquor. Breaches of the Transit By-laws caused the imprisonment of 75 men, while 220 underwent the penalty for violating the Master and Servants' Act. Breach of the Railway By-laws caused 137 to suffer, 104 of whom had travelled without paying fare. One man only went to gaol for a breach of the Tramway By-laws, and 53 served sentences for infringing the provisions of the Stamp, Public Instruction, Customs, and Travelling Stock Acts, and for breach of Municipal By-laws. Under the head of "miscellaneous misdemeanors" there were 1,003 prisoners for petty larceny, 156 for receiving stolen property, 2,571 for drunkenness, 123 for malicious injury to property, 50 for gambling, 44 for illegally using a horse, 26 for cruelty to animals, 21 for attempted suicide, 23 for contempt of Court, and the remainder for various offences.

Female misdemeanants.

The females who were received into gaols for misdemeanors during 1889 were 3,419 in number. For child desertion one woman received a sentence of over five years, the culprit being a baby-farmer, who took charge of children only to desert them; 1,154 women were imprisoned under the Vagrancy Act, and 13 for breaches of the Railway and Licensing Acts; and of the Transit and Municipal By-laws. Under the head of "miscellaneous," there were 150 prisoners for petty larceny, 1,870 for drunkenness, 59 for malicious injury to property, 3 for attempted suicide, 2 for concealment of birth, 11 for receiving stolen property, and 9 for various offences.

It is impossible to determine the extent of the criminal class in the Colony, or even the number of habitual criminals. The number of prisoners with previous convictions against them has, however, been ascertained, and is shown in the following table:

Extent of criminal class.

Prisoners with Previous Convictions.

Year.	Offenders with previous convictions.	Offences committed by prisoners with previous convictions.	Average number of convictions per prisoner.
1879	1,700	6,240	3·67
1880	1,680	6,596	3·92
1881	2,994	8,623	2·88
1882	3,210	7,836	2·44
1883	3,056	7,668	2·51
1884	3,209	7,942	2·47
1885	3,355	8,295	2·47
1886	3,188	8,150	2·56
1887	2,441	8,117	3·33
1888	2,550	6,685	2·62
1889	2,375	6,189	2·60

Some prisoners entered as having previous convictions were possibly sentenced in a previous year and had not two convictions in any one year. The averages therefore given in the last column are the minimum. The terms for which women are sentenced are much shorter, as their offences are much lighter than those of males. On the other hand there must, from the evidence of the above table, be a constant reappearance of the same faces before the Courts to account for so high an average of reconvictions. The proportion of habitual offenders, if those with previous convictions may be so termed, is remarkable, and will perhaps be better illustrated by the following table than even by the one just given:—

Habitual offenders.

Year.	Percentage of prisoners with previous convictions sent to gaol.	Year.	Percentage of prisoners with previous convictions sent to gaol.
1879	19·54	1885	26·99
1880	19·39	1886	26·40
1881	29·44	1887	25·41
1882	33·38	1888	25·26
1883	28·31	1889	26·90
1884	26·17		

Reconvictions.

The numbers of prisoners reconvicted from 1875 to 1889 are given in the following table; they are arranged in classes according to the terms of their imprisonment.

Classification of Prisoners reconvicted.

Year.	1st Class. Sentence, 5 years and upwards.			2nd Class. Sentence, less than 5 years.			3rd Class. Sentence, imprisonment only.			Drunkards and petty offenders omitted from the foregoing.		
	Second conviction.	Third conviction.	Fourth, or more.	Second conviction.	Third conviction.	Fourth, or more.	Second conviction.	Third conviction.	Fourth, or more.	Second conviction.	Third conviction.	Fourth, or more.
1875	21	22	......	36	59	......	34	35	......	145	724	......
1876	19	40	......	56	86	......	25	44	......	169	1,027	......
1877	12	30	......	83	91	......	7	22	......	169	1,057	......
1878	10	27	......	51	66	......	17	28	......	1,150	2,178	......
1879	4	22	......	50	65	......	24	51	......	319	1,165	.....
1880	20	3	3	186	39	30	113	38	37	388	823	......
1881	8	3	4	107	54	63	98	43	16	1,014	488	1,096
1882	16	5	12	231	82	93	152	38	85	1,157	476	863
1883	53	4	9	257	50	64	75	20	31	955	579	959
1884	35	10	46	136	72	57	86	29	37	1,170	559	972
1885	20	19	29	133	81	72	101	38	35	1,337	579	911
1886	23	10	23	108	43	115	93	31	51	1,325	552	814
1887	18	6	28	113	52	74	79	13	20	1,018	443	577
1888	16	17	35	136	66	113	76	40	40	1,071	412	528
1889	18	14	54	266	104	97	119	54	24	856	374	395

Previous to the year 1880 prisoners with four or more convictions are included with those convicted for the third time. The particulars in this table were obtained from the reports of the Comptroller-General of Prisons.

Refractory prisoners.

The chief punishment inflicted on refractory prisoners is solitar confinement. Formerly other modes of punishment were equall used, but of late years these have been to a large extent superseded. The number of punishments inflicted upon refractory prisoners is given as follows:—

Refractory Prisoners.

Year.	Prisoners punished in gaols.			Percentage of total prisoners punished.
	Solitary confinement.	Other punishment.	Total.	
1877	501	395	896	8·23
1878	768	192	960	8·17
1879	1,061	284	1,345	10·16
1880	1,210	263	1,473	10·84
1881	1,225	332	1,557	9·85
1882	1,133	319	1,452	10·19
1883	1,249	268	1,517	9·64
1884	1,473	436	1,909	11·23
1885	1,435	399	1,834	10·56
1886	1,420	389	1,809	10·61
1887	1,445	416	1,861	12·18
1888	1,302	246	1,548	10·89
1889	1,195	331	1,526	11·85

Debtors.

There were seventy-two persons imprisoned for debt during the year 1889. And as the time of detention as a rule only extended for short periods, the number of debtors in confinement at any one time was not large. The figures for the last thirteen years will be found in the following table:—

Debtors in Confinement.

Year.	Male.	Female.	Total.	Year.	Male.	Female.	Total.
1877	42	...	42	1884	61	3	64
1878	49	2	51	1885	50	2	52
1879	46	2	48	1886	61	1	62
1880	46	1	47	1887	48	2	50
1881	52	...	52	1888	56	1	57
1882	44	1	45	1889	71	1	72
1883	27	1	28				

Deaths in gaols

The death-rate in gaols is very light, when the neglected state in which many of the prisoners are received is considered, and moreover shows signs of decreasing. No common ground of comparison exists between the death-rate in gaols and that of the general population. In the following table the number of deaths is given from 1878 to 1889, together with the death-rates per 1,000 of all prisoners under sentence during each year, and this includes those whose term had not expired at the close of the previous year:—

Deaths and Death-rate in Gaol.

Year.	Deaths.			Death-rate per 1,000 persons under sentence. (Both sexes.)
	Male.	Female.	Total.	
1878	39	7	46	4·39
1879	36	7	43	4·10
1880	37	...	37	3·48
1881	53	7	60	4·88
1882	40	6	46	3·92
1883	30	5	35	2·75
1884	35	4	39	2·70
1885	39	11	50	4·01
1886	38	10	48	3·27
1887	30	8	38	3·13
1888	30	5	35	2·80
1889	32	3	35	3·13

THE SUPREME COURT.

Judges of the Supreme Court.

The chief legal tribunal of the Colony is the Supreme Court, which is at present composed of seven judges—that is, one Chief Justice, and six puisne Judges. Civil actions are usually tried by a jury of four persons, but either party to the suit, on cause shown, may apply to a Judge in Chambers to have the cause tried by a jury of twelve. Twice the number of jurors required to sit on the case are chosen by ballot, from a panel summoned by the Sheriff, and from that number each of the parties strikes out a fourth, the remainder thus selected by both parties forming the jury who are to try the case. This jury are constituted the judges of the facts of the case only, being bound to accept the dicta of the Judge on all points of law. From the court thus constituted an appeal lies to what is called the "Full Court," sitting *in Banco*, which is

The Full Court

generally composed of at least three of the Judges. The Chief Justice, or in his absence the senior puisne Judge, presides over the Full Court, which gives its decision by majority. The circumstances under which new trials are granted are:—Where the Judge has erroneously admitted or rejected material evidence; where he has wrongly directed the jury on a point of law; where the verdict of the jury is clearly against evidence; or where, from some other cause, there has evidently been a miscarriage of justice.

Appeal to Privy Council permitted.

Provision is made for appeals to the Privy Council, but any suitor wishing to carry his cause before the supreme tribunal of the Empire must first obtain leave so to do from the Supreme Court. The amount in dispute must be at least £500, or affect the construction of a New South Wales statute. In other cases application for leave to appeal must be made to the Privy Council itself.

Vice-Admiralty Court.

The Chief Justice has also an extensive jurisdiction as Commissary of the Vice-Admiralty Court, in which all cases arising out of collisions, &c., in Australian waters, are determined.

Equity jurisdiction.

One of the puisne Judges also acts as judge of the Equity Court, from whose decrees an appeal lies to the Full Court, and thence to the Privy Council.

Bankruptcy.

Affairs in Bankruptcy are also dealt with by a puisne Judge, assisted by the Registrar.

Divorce Court.

Another puisne Judge presides over the Divorce Court, in which cases are usually tried without a jury, an appeal lying to the Supreme Court.

Ecclesiastical jurisdiction.

The equity Judge also represents the ecclesiastical jurisdiction of the Supreme Court, and hears and decides all applications for the probate of wills, and for letters of administration, and also determines suits as to the validity, &c., of wills. Motions for rehearing cases, adjudicated in this court, are sometimes made before the Supreme Court or Privy Council. Barristers only have the right of audience before the Supreme Court.

Civil suits.

The following table gives the number of civil suits decided in the Supreme and Circuit Courts in each year from 1876 to 1889, inclusive :—

Civil Suits.

Year.	No. of writs issued.	No. of causes entered for trial.	Defended.	Undefended or settled.	Total amount for which judgment signed.
					£
1876	2,530	293	208	85	106,257
1877	2,887	286	188	98	127,205
1878	3,280	319	199	120	278,126
1879	3,806	292	179	113	436,356
1880	3,312	350	202	148	202,254
1881	2,845	331	173	158	....
1882	3,161	414	250	164	169,520
1883	3,830	377	225	152	....
1884	4,547	493	271	222	370,648
1885	4,079	494	255	239	399,952
1886	5,649	503	255	248	410,275
1887	5,149	478	223	255	457,704
1888	4,636	583	306	277	393,976
1889	6,408	599	300	299	690,753

Probates and letters of administration.

The number of probates and letters of administration in connection with wills for each year, of the same period, is given in the next table :—

Probates and Administrations.

Year.	No. of probates and administrations—Wills annexed.	Amount sworn to.	No. of letters of administration.	Amount sworn to.	Total
		£		£	£
1876	511	1,677,972	415	223,189	1,901,161
1877	530	1,336,599	471	291,391	1,627,990
1878	573	1,735,064	514	281,367	2,016,431
1879	579	2,116,906	472	269,991	2,386,897
1880	667	1,323,823	506	210,816	1,534,639
1881	671	2,011,305	526	307,818	2,319,123
1882	810	3,586,554	589	581,528	4,168,082
1883	862	3,528,602	613	588,029	4,116,631
1884	933	3,642,709	648	605,543	4,248,252
1885	961	3,721,805	659	601,542	4,323,347
1886	1,026	4,726,918	706	768,628	5,495,546
1887	961	3,621,874	665	641,426	4,263,300
1888	998	3,652,963	667	638,295	4,291,258
1889	1,115	4,317,734	682	473,611	4,791,345

CRIMINAL JURISDICTION.

Trial by jury.

A Judge of the Supreme Court presides over the Central Criminal Court of Gaol Delivery held at Darlinghurst. All prisoners are tried by a jury of twelve, chosen by ballot from the panel provided by the Sheriff. Every person charged with felony has a peremptory right of challenge extending to twenty jurors, and he can also further exercise his right of challenge on cause shown and allowed. No prisoner is permitted to give evidence, but he has a right to the services of counsel in conducting his defence. The verdict of the jury must be unanimous, for even if eleven jurors were agreed their verdict could not be accepted. If the jury cannot agree they may be locked up until they either give a unanimous verdict, or are discharged by the Court. If no verdict is returned the prisoner is liable to be tried over again by another jury.

Gaol deliveries.

In addition to the supreme, civil, and criminal sittings of the Court held in Sydney, each Judge goes on circuit once in each half-year, and holds Courts of Gaol Delivery and for hearing civil cases at certain circuit towns, viz. :—In the north—Maitland, Tamworth, Armidale, and Grafton; in the west—Mudgee, Bathurst, Dubbo, and Broken Hill; in the south—Goulburn, Yass, Wagga Wagga, Albury, Deniliquin, Young, and Hay.

DISTRICT COURTS.

Minor civil causes.

District Courts have been established for the trial of civil causes where the value in dispute does not exceed £200. They are presided over by Judges specially appointed for the purpose, who also perform the duties of Chairmen of Quarter Sessions for the trial of all prisoners except such as are charged with capital crimes. District Courts sit ten months during the year in the metropolis, and are held twice a year in all considerable country towns. The Judge is not ordinarily assisted by a jury, but in cases where the amount in dispute exceeds £20, either of the parties may, by giving notice to the Registrar of the Court, have a jury summoned. On questions of law an appeal lies to the Supreme Court.

Questions reserved for Supreme Court.

On the trial of prisoners at Quarter Sessions, the Chairman, at the request of the prisoner's counsel, must reserve questions of law for the consideration of the Supreme Court, or he may so act *motu proprio.*

Suits in District Courts.

The number of suits in the District Courts of the Colony, and the mode in which they were tried, whether with or without jury, &c., is given in the following table for the judicial year terminating the last day of February, 1890 :—

Suits in District Courts, 1889–90.

District.	Number of suits.		Settled.		Number of cases tried.		Result of the trials.	
	Commenced.	Total amount sued for.	Without hearing.	By arbitration.	By jury.	Without jury.	For plaintiffs.	For defendants.
Metropolitan and Hunter..	7,783	176,002	1,595	4	18	3,655	3,389	284
Southern	1,284	35,451	595	4	19	636	551	104
South-western..	1,046	36,785	563	1	15	416	381	56
Western	737	24,681	320	7	10	351	316	45
Northern	1,572	41,329	551	2	14	965	873	106
North-western.	409	16,850	144	1	4	217	197	24
Total	12,831	331,098	3,768	19	80	6,240	5,707	619

The costs of the above-mentioned suits in the Districts Courts amounted to £23,685.

BANKRUPTCY COURT.

Bankrupt debtors.

The statutes relating to bankrupt debtors are administered by the Supreme Court, and the jurisdiction is exercised by a Judge thereof, called the Judge in Bankruptcy, who may on occasion delegate certain of the powers vested in him to the Registrar of Bankrupt Estates. When any person becomes embarrassed, and is unable to pay his debts, the law allows him to sequestrate his

Sequestration of estates.

estate for the benefit of his creditors, or these latter may, under certain specified circumstances, apply for a compulsory sequestration. An officer of the Court, termed an official assignee, is appointed by the Judge to manage each sequestrated estate. His duties are to realise the bankrupt's assets, and pay *pro rata* the debts proved, subject to the approval of the Judge. After each bankrupt's case has been investigated, and all dividends have been paid, the Judge may at his discretion grant a certificate relieving the bankrupt from all future liability. This certificate is granted in all cases where no blame has been found to attach to the applicant; but where the bankruptcy has been brought about by recklessness or fraud, it is often withheld for some time, and, in very bad cases, refused entirely. An appeal from the decision of the Judge may be made on the same terms and in similar mode as is provided in respect to an order, decision, or ruling of a Judge of the Supreme Court, and by the rules of Court the Judge from whose decision an appeal has been made may not sit to hear such appeal.

The number of bankrupts, and the amounts for which they failed, and other particulars will be found in the chapter of this volume relating to finance.

PART XVIII.

Constitution and Government.

THE record of New South Wales as a Crown Colony belongs more to history than to current statistics. It is therefore not proposed, in the following sketch, to deal with matters prior to the establishment of Responsible Government, though a brief narrative of the early history and settlement of the country will be found in the opening pages of this volume.

Present mode of government began in 1855.

The present form of government was inaugurated about thirty-five years ago, the "Act to confer a Constitution on New South Wales, and to grant a Civil List to Her Majesty," having received the Royal assent on the 16th July, 1855. This important statute was proclaimed in Sydney on the 24th of November of the same year, and at once came into operation, sweeping away entirely the former system, and constituting an elective representative Chamber, thus, by the granting of equal privileges, making the colonists of New South Wales the equals of their countrymen in other parts of the Empire. The ties which bound the Colony to the Empire were in no way loosened, for the Constitution Act simply conceded to the people of New South Wales the same rights which prevailed in the United Kingdom, namely, of taxing themselves, and of being governed by Ministers responsible to a Parliament elected by the people. The authority vested in the Sovereign remains the same as before, though the mode of its exercise is widely different. The Sovereign, previously to Responsible Government, exercised, through the Governor, almost despotic power. This official, in times past, united in himself the executive and legislative functions, and personal liberty and independence

The Sovereign.

were to no small degree in his power. With the establishment of Responsible Government, this state of things ceased, and the greatest measure of individual liberty is now found compatible with the full protection of public rights. The readiness with which the people of the Colony adapted themselves to the forms and practice of their new government was not a little remarkable, and fully justified their assumption of its privileges.

Laws enacted in Queen's name.

All laws are enacted in the name of the Queen, "by and with the advice of the Legislative Council and Legislative Assembly," the Governor, as the Royal Deputy, giving the assent of the Sovereign immediately to Acts of Parliament, or reserving them for the consideration of the Sovereign, if he thinks fit. In order that the Constitution may be clearly understood, it will be well to consider, under distinct heads, the several elements of which the Government and Legislature consist.

THE GOVERNOR.

How appointed.

Previously to the year 1879 the Governor of the Colony was appointed by Letters Patent under the Great Seal; but in that year the practice was discontinued by the advice of Sir Alfred Stephen, given during the tenure of office of Sir Hercules Robinson. The change was first carried out in the appointment of Lord Augustus Loftus. The office of Governor is now constituted by permanent Letters Patent, and by a standing Commission, instead of as formerly by letters issued *pro hac vice* only. The Governor receives his appointment at present by Commission under the Royal sign manual and signet, which recites the Letters Patent of the 29th April, 1879, as well as the instructions issued (under sign manual and signet) in further declaration of the Queen's "will and pleasure." The original Letters Patent, thus recited and enforced, declare that the Governor is directed and empowered "to do and execute all things that belong to his office according to the tenor of the Letters Patent, and of such Commission as may be issued to him under our sign manual and signet, and according to such instructions as may from time to time be given to him under our sign manual and signet, or by our order in our Privy Council, or by us through one of our Principal Secretaries of State, and to such laws as are now or shall hereafter be in force in the Colony." By a custom which has now long prevailed no Governor is allowed to retain his office longer than six years. Should the Governor die or become incapable during his tenure of office, or be removed before the arrival of his successor, or should he have occasion to leave the Colony for any considerable period, the Government is to be administered (1) by the Lieutenant-Governor; or, if there be no Lieutenant-Governor, (2) by an Administrator to be appointed according to the provisions of the Letters Patent and instructions. The present Lieutenant-Governor is Sir Alfred Stephen, who was appointed by a Commission, dated 30th April, 1879; and the Administrator was appointed by a Commission of the same date, directed to the President of the Legislative Council for the time-being.

Lieutenant-Governor.

The Lieutenant-Governor, or, in his absence, the Administrator, is empowered by his Commission to execute the office of Governor during any temporary absence of the Governor from the Colony; but the Governor may not be absent, except in accordance with the terms of his instructions. He may not leave the Colony without the Queen's special leave, unless on a visit to the Governor of a neighbouring colony, for a period exceeding one month at a time, nor exceeding in the aggregate one month for every year of his service; but, on the other hand, the Governor may leave the Colony for any period not exceeding one month without its being reckoned as a departure, if he shall have previously informed the Executive Council in writing of his intention, and appointed a deputy to act for him till his return. This deputy must, in the first instance, be the Lieutenant-Governor; but if, from any cause, his services are not available, the Governor may appoint whom he pleases as his deputy.

The Administrator.

The Governor's functions, according to the Letters Patent, Commission, and Instructions may be recapitulated as follows:—

The Governor is the custodian of the Great Seal, under which all Crown grants, &c., must pass.

Governor appoints Executive.

The Governor has the appointment of his own Council—the Executive. He is also to summon that Council, and is, ordinarily its President; but in his absence some other member may be nominated to preside. It is usual, however, to appoint some member of the Ministry permanent Vice-President, who presides in the absence of the Governor.

The Governor is the fountain of honour within the Colony, since to him belongs the power to appoint, in the Queen's name, all Judges, Justices of the Peace, Commissioners, and other "necessary officers and Ministers"; and he may remove, by virtue of his powers as Viceroy, from the exercise of his office any official so appointed.

Prerogative of mercy.

The Governor is also the depositary of the prerogative of mercy within the Colony, having it in his power to pardon, either absolutely or conditionally, any offender convicted in New South Wales. He can also remit fines, penalties, and forfeitures due to the Crown, but he cannot pardon or remit on the condition of the offender voluntarily leaving the Colony, unless the offence has been a political one only. In all capital cases the Governor is required by his instructions to obtain a report in writing from the Judge who tried the prisoner, which is to be considered at a meeting of the Executive Council, and the Judge himself may also be examined before the Council, although his recommendations need not necessarily be adopted. The Governor, however, is not empowered to reprieve any capitally sentenced prisoner, or pardon him absolutely "unless it shall appear to him expedient so to do upon receiving the advice of the Executive Council, but in all such cases he is to decide either to extend or to withhold the pardon or reprieve according to his own deliberate judgment, whether the members of the Executive Council concur therein or otherwise." If the Governor decides to act contrary to the advice of the Executive he must make a minute in the proceedings, stating, *in extenso*, his reasons for so acting.

The Governor is also vested with the authority of the Crown, enabling him to nominate the members of the Upper House of the Legislature, and to summon, prorogue to a future day, or dissolve "any legislative body" existing in the Colony.

Governor acts by advice of Executive.

His instructions, however, provide that in the exercise of the above powers the Governor is to act by the advice of the Executive Council in all cases, except those whose nature is such that in his opinion the public service "would sustain material prejudice," or in matters too trivial to submit to the Council, or "too urgent to admit of their advice being given;" but in all such urgent cases he must communicate to the Council as soon as practicable the measures taken by him, and his reasons for acting. It is expressly provided, however, that the Governor may, if he think fit, disregard the advice of the Executive and act in direct opposition to the declared will of his advisers, but in such cases he is required to make a full report of the whole circumstances for the information of the Secretary of State for the Colonies.

Governor Viceroy as regards Royal assent.

The Governor acts as Viceroy as regards giving the Royal assent or vetoing Acts passed by the Legislature, or reserving Bills for the special consideration of the Sovereign. The instructions deal at large with this matter, but it is usual in practice to be guided to a large extent by the advice of the law officers of the Crown. There are eight different classes of Bills, however, to which the Governor is bound to refuse the Royal assent. They are:—

(1.) Divorce Bills (that is, private bills divorcing particular persons).

(2.) Bills making any kind of grant, gratuity, or donation to the Governor.

(3.) Bills affecting the currency.

(4.) Bills imposing differential duties, which are not in accordance with the "Australian Colonies Duties Act, 1873."

(5.) Bills apparently contrary to Imperial treaty obligations.

(6.) Bills interfering with the discipline or control of Her Majesty's land or sea forces employed in the Colony.

(7.) Bills of great importance, or extraordinary in their nature, whereby the Royal prerogative, or the rights and property of Her Majesty's subjects residing beyond the Colony, or the trade and shipping of the United Kingdom and its dependencies may be prejudiced.

(8.) Bills containing provisions to which the Royal assent has already been refused, or which have been once disallowed, unless they contain a clause suspending their operation until the Queen's pleasure has been signified, or unless the Governor is satisfied that there is urgent necessity for bringing any such Bill into immediate operation, in which case he is empowered to assent to the Bill on behalf of the Queen, if it is not repugnant to the law of England, or inconsistent with Imperial treaty obligations; and in every such case he is required to transmit the Bill to Her Majesty, together with his reasons for assenting to it.

Acts regulating Royal assent.

The following Acts of Parliament regulate the action of the Governor in assenting to Bills on behalf of the Queen, or reserving them for the consideration of the Sovereign :—5 and 6 Vic., secs. 31–32, cap. 76; 7 and 8 Vic., sec. 7, cap. 74; and 13 and 14 Vic., cap. 59, secs. 13, 32, and 33. The effect of these enactments is to deprive any reserved Bill of all force and legality until the Queen's assent thereto has been formally communicated to the Governor; and power is given to Her Majesty to veto any Bill to which the Governor has assented on her behalf within two years after the receipt of such Bill by the Secretary of State for the Colonies, in which case the Bill is to be declared null and void by message of the Governor, and proclamation. Reserved Bills are to be laid before Her Majesty in Council, and the Queen may allow them or not within a period of two years from the day on which they were reserved by the Governor. The Queen's assent to reserved Bills may be transmitted by telegram.

Summoning of Parliament, &c

By the Act 7 Vic., No. 16, all Acts of Parliament which become law are required to be registered by the Registrar-General within ten days of their so becoming law.

The above is a summary of the powers and duties of the Governor, as defined by his instructions and the Letters Patent, but additional duties have been imposed upon him by the Constitution and Electoral Act. In accordance with these enactments he must summon the Legislative Assembly, appoint the President of the Legislative Council; prorogue or dissolve Parliament; appoint his ministers *proprio motu;* also appoint, with the advice of the Executive, all public officers whose appointment is not vested in heads of departments; issue all warrants for the payment of money; issue the writs for general elections, and, in the absence of the Speaker, issue writs to fill vacancies occurring in the Assembly. He also appoints all returning-officers, and issues the writs for additional members provided for by the expansive clauses of the Electoral Act.

Dissolution of Parliament.

In summoning, proroguing, or dissolving Parliament, the Governor usually acts according to the advice tendered him by the Cabinet, but he is in no way bound to do so; and, as a matter of fact, has sometimes declined to be guided by his Ministers. This, however, has never happened except in respect to granting a dissolution. As to summoning or proroguing a difference of opinion is hardly likely to arise. The relations established between the Ministry and the representatives of the people are in accordance with the time-honoured precedents prevailing in Great Britain, which may be thus defined. The Cabinet must be chosen from—"(1) Members of the Legislature; (2) Holding the same political views, and chosen from the party possessing a majority in the

House of Commons; (3) Carrying out a concerted policy; (4) Under a common responsibility, to be signified by a collective resignation in the event of Parliamentary censure; and (5) acknowledging a common subordination to one Chief Minister."

Circumstances under which a Government must resign.

The Imperial rule as to the circumstances under which a Government is bound to resign, is as follows:—Censure, involving loss of office, rests entirely with the Lower House, or popular branch of the Legislature. Hence directly a Ministry fails to command a majority of the House of Commons it must give place to another. Want of confidence in a Cabinet may be shown in three ways: first, by a direct vote of censure, or a specific declaration of want of confidence; secondly, by a vote disapproving of some act of the Government; or thirdly, by the rejection of some important measure introduced by the Ministry. In any of these cases Ministers must either resign, or appeal to the country if they can get the Sovereign to sanction a new election.

These rules have been virtually adopted in New South Wales and the undoubted right of the Governor, as the depositary of the Royal prerogative, to refuse to grant a dissolution, if he thinks fit, has been more than once exercised. In March, 1877, Sir Hercules Robinson refused to grant a dissolution to Sir John Robertson, and in September of the same year he also declined to enable Sir Henry Parkes to go to the country. The reason alleged in each case was that the Assembly refused to make provision for the expenditure of the year. It will thus be seen that a grave responsibility is thrown upon the Governor in the exercise of the undoubted right of granting or refusing a dissolution of Parliament, and in the cases mentioned it can hardly be doubted that Sir Hercules Robinson acted within his powers. The Viceroy is the conservator of the rights and interests of the whole population, and it must be evident that grave evils would ensue should a dissolution take place before supplies had been granted.

Prerogative of mercy.

The exercise of the prerogative of mercy is such an important function of the Governor, and he is so liable on some occasions to have strong pressure brought to bear upon him in connection with it, that it will be well to quote at length a despatch of Lord Carnarvon, explaining the instructions on this point. Under date 4th May, 1875, he wrote :—

"It should be understood that no capital sentence may be either carried out, commuted, or remitted, without a consideration of the case by the Governor and his Ministers assembled in Executive Council. A minor sentence may be commuted or remitted by the Governor, after he has duly considered the advice, either of his Ministers collectively in Executive Council, or of the Ministers more immediately responsible for matters connected with the administration of justice; and whether such advice is or is not tendered in Executive Council, it would seem desirable that, whether also given orally or not, it should be given in writing."

Governor as Commander-in-Chief of military forces.

One exception to the rule that every exercise by the Governor of the Royal prerogative is subject, practically, to the control of the Legislature, occurs in connection with the exercise of his office as Commander-in-Chief of the land and sea forces. The Governor's powers in this regard are defined and regulated by the Military and Naval Forces Regulation Act of 1871, which, after providing for the raising and maintenance of a standing force, goes on to vest the supreme command in the "Governor," which title, in the interpretation clause, is defined to mean "the Governor with the advice of the Executive Council," *unless the context shall otherwise indicate.* Full powers with relation to the Volunteer Force are also bestowed on the Governor by the Volunteer Regulation Act of 1867, but in this, as in the former statute, "Governor" only means "the Governor with the advice of the Executive Council," *if this meaning is not inconsistent with the context or subject-matter.* It will at once be seen that these are both important limitations, as in certain imaginable contingencies the Governor is left free to act on his own responsibility. This places the Governor almost in the position of the Commander-in-Chief in England (when such an officer exists, which is very seldom, the control of the army usually being vested in Generals commanding-in-chief); that is, he has at times the absolute disposal of the armed force of the Colony. This power is peculiar to New South Wales, as in other British Colonies, the Governor possesses no more power over the military than he does over any civil department of the service. The position of the Governor as Captain-General does not, however, give him power to take the direct command of Imperial troops, should any such be stationed in the Colony.

Martial Law.

As regards the far more important power of the Governor to proclaim martial law, different opinions are held. But there is no doubt, as the power has not been conferred by any statute in force in the Colony, that, if it exists, it must be a matter of prerogative. The necessity for proclaimimg martial law has happily never occurred since the advent of Responsible Government.

THE EXECUTIVE.

The Cabinet.

The Executive Council is composed of the ten Ministers, namely: The Colonial Secretary, the Treasurer, the Attorney-General, the Secretary for Lands, the Secretary for Public Works, the Minister of Justice, the Minister of Public Instruction, the Secretary for Mines, and the Postmaster-General, with sometimes a Vice-President of the Executive Council, who is without a portfolio. These form the Cabinet, and, of course, are responsible to Parliament. The Ministry, as the advisers of the Governor, must also retain his confidence, but practically, this is seldom likely to be withdrawn, so long as they can command a working majority in the Assembly. The Governor may dissolve Parliament although the Ministry have not sustained a defeat, and in this case the continued existence of any Government would depend directly on the vote of the constituencies, but such a contingency can happen but seldom.

Ministers not usually appointed from Upper House.

It is rare for more than one Minister to be selected from the Upper House, and it will thus be seen that the principle of the responsibility of members of the Government to Parliament is

Ministers responsible to Parliament.

fully carried out. For every act of the Governor as Viceroy, some Minister is responsible to Parliament; and even in matters of Imperial interest, where the final onus rests upon the Governor, he himself is responsible to the Imperial Government, whose members are under the control of the House of Commons, so that no loophole is left for the exercise of any arbitrary act. The Crown, except in two instances (appeals to the Privy Council and the bestowal of titles), acts towards the Executive through its representative, the Governor; and so long ago as the inception of Responsible Government, Earl Grey declared, in an official despatch, that he should make "a judicious use of the influence, rather than of the authority, of his office," which wise maxim has usually been followed. But in extreme cases, such as when his sanction is requested to any illegal proceeding, the Governor is bound, without question, to keep the law, though he may thereby be brought into hostile relations with the Cabinet. Sir Michael Hicks-Beach, in a communication to the Governor-General of Canada in 1879, clearly laid down the doctrine that the Governor of any British Colony "has an unquestionable constitutional right to dismiss his Ministers, if from any cause he feels it incumbent on him to do so." This does not militate against the doctrine of responsibility, for if the Ministry appointed by the Governor do not possess the confidence of Parliament, they cannot hold office, and hence the Governor will be forced to give way, or else persevere till he can select a Ministry which the Assembly will accept. The final control will thus be, as in every other case, with the representatives of the people. In matters of routine, the Governor will necessarily act on the advice of his Ministers, and in most cases relating to the internal economy of the departments, he will adopt even the individual recommendations of the Ministers by whom they are severally controlled.

Dismissal of Ministers.

As regards matters of purely Imperial interest, the Governor is responsible to the British authorities for their due conservation. If, in consequence of his action on any such matter, he is involved in a dispute with his Ministers, he is bound to refer them to the Sovereign, should his action have been endorsed by the Colonial Office. If his conduct is not approved of in England he would most likely be recalled. It follows from this, that in no case can the Governor be held to be responsible directly to Parliament for his conduct. His Ministers are responsible, but personally he has only to render an account to the Crown itself, that is, to the Imperial Parliament.

Executive must be summoned by Governor.

The Executive Council cannot discharge any function unless duly summoned by the Governor, and at least two members, besides the Governor or presiding member, are present to form a quorum. Formal minutes are, of course, kept of all proceedings. The Executive Council, as at present constituted, is as follows:—

Premier and Colonial Secretary	The Hon. Sir Henry Parkes, G.C.M.G.
Colonial Treasurer	The Hon. William McMillan.
Attorney-General	The Hon. George Bowen Simpson, Q.C.
Secretary for Lands	The Hon. James Nixon Brunker.
Secretary for Public Works	The Hon. Bruce Smith.
Minister of Public Instruction	The Hon. Joseph Hector Carruthers.
Minister of Justice	The Hon. Albert John Gould.
Postmaster-General	The Hon. Daniel O'Connor.
Secretary for Mines	The Hon. Sydney Smith.
Vice-President of the Executive Council and Representative of the Government in the Legislative Council (without portfolio)	The Hon. William Henry Suttor.

Since the introduction of Responsible Government there have been twenty-six Ministries, the average tenure of office being one year and three months.

THE PARLIAMENT.

Relative powers of the two Houses undefined

It seems a singular omission in the Constitution Act that no definition is given of the relative powers of the Legislative Council and Legislative Assembly. Such is the fact, but no inconvenience has arisen thereby, since by common consent it has been agreed that the precedents regulating the proceedings and relations, *inter* *se*, of the two Houses of the Imperial Parliament shall be followed, as far as applicable, in New South Wales. The Constitution Act provides that all money bills shall be introduced in the Lower House only. The important rule of the House of Commons, affirmed two hundred years ago and constantly enforced ever since, that "all aids and supplies, and aids to Her Majesty in Parliament are the sole gift of the Commons, and it is the undoubted right of the Commons to direct, limit, and appoint in such bills, the ends, purposes, considerations, conditions, limitations, and qualifications of such grants, which ought not to be changed or altered by the House of Lords," is also held to be in force as regards the Parliament of this Colony, and has always been recognized and acted upon.

Parliament cannot punish for contempt.

The two Houses, however, do not possess the most important of the privileges of the Imperial Parliament, namely, the right of punishing for contempt, although the Legislative Assembly has, on one occasion, punished one of its members, for conduct assumed to be dishonorable beyond its precincts, by expelling him. As regards disorderly conduct within the walls of the Chamber it has been held by the Supreme Court and affirmed by the Privy Council, that the Assembly only possesses the power of suspending a member for disorderly conduct for the period of the sitting at which such conduct took place. A member may be also removed from the House by order of the Speaker if he persists in obstruction or contemns the Standing Orders; but fortunately this course has seldom been rendered necessary.

Witnesses may be summoned.

Witnesses may be summoned to give evidence before either House, or before committees of the Council or Assembly, the necessary powers for compelling their attendance having been conferred by an Act passed in 1881. Any person disobeying a summons may be arrested on a Judge's warrant, and the maximum penalty for refusing to give evidence is imprisonment for one calendar month.

As regards the maximum number of members of the Legislative Council no limit is assigned by the Constitution Act, although

No limit to numbers of Council.

the minimum number is fixed at twenty-one. It will be seen that this gives power to a Governor to quash any possible obstruction on the part of the Council to the will of the Government, and the Lower House by "swamping" the Council. Such a proceeding, however, can hardly be held to be allowable, except under extreme circumstances. As a matter of fact, an attempt to "swamp" the Council was made during one of the premierships of the late Sir Charles Cowper, but public opinion condemned the course most strongly, although the somewhat peculiar circumstances of the case were thought at the time to justify the Governor's action. The authorities in England severely rebuked the Governor (Sir John Young) for the course he had taken, and since then, "swamping' the Council has never been seriously entertained, nor is there much chance that it will ever again be attempted. The principle in fact has been affirmed, on the basis of an understanding entered into between Sir John Young and the leading statesmen of the day (of both sides of the House), that the members of the Legislative Council should be limited to a convenient number, and that no nominations should ever be made merely for the purpose of strengthening the party which happens to be in power. A deadlock between the two Houses is provided against by the universal feeling that the Assembly represents the will of the people, and in such case the Council would certainly have to give way to the deliberate will of the people's representatives. The Council is intended as a check to hasty legislation; and it doubtless acts as a useful "brake" to violent party feeling.

THE LEGISLATIVE COUNCIL.

Constitution of the Legislative Council.

As before stated, the members of the Upper House are nominated by the Governor, the minimum number composing the House being fixed at twenty-one. No limit as to numbers is fixed by the Constitution Act, but in accordance with the arrangement already described the number is practically kept down by the exclusion of all purely political appointments. As the number of members of the Assembly has been greatly increased in pursuance of the "expansion" clauses of the Act, the present number of members composing the Council (seventy) will not be considered an unfair proportion, as the increase is in about the same ratio as that of the Assembly. The members must be of full age, and either natural-born or duly naturalized subjects of the empire. Four-fifths of the members must be persons not holding any paid office under the Crown, but this is not held to include officers "in Her Majesty's sea and land forces on full or half pay, or retired officers on pensions." Though the appointment is for life, a member may resign his seat, and he also forfeits it by absence from two consecutive sessions without leave, by becoming naturalized in a foreign State, by becoming bankrupt, by becoming a public contractor, or defaulter, by being attainted of treason, or being convicted of felony, or any infamous crime. The Governor appoints and removes, if considered necessary, the President, who may speak in debate, but can only give a casting vote. An attendance of one-third of the members on the roll is necessary to constitute a quorum, but a bill has lately been introduced to reduce the proportion to one-fourth. The Council must hold a sitting at least once in every year, and no greater interval than twelve months must elapse between session and session. The proceedings are regulated by standing orders, which are, in the main, similar to those of the Assembly, the latter being framed on the model of the rules obtaining in the House of Commons. No member may sit or vote till he has taken the oath of allegiance, or the affirmation prescribed in lieu of that oath.

Members may resign.

THE LEGISLATIVE ASSEMBLY.

The Lower House of Parliament is elected by manhood suffrage, the number of electorates being at present seventy-four, returning 137 members. The qualification of electors is derived either from actual residence in an electorate or ownership of a freehold or leasehold therein. The following are the rules applying to each of the two cases:—

Qualification of electors.

1. Any person claiming a right to have his name on the electoral roll in respect of residence must prove that at the time of the

collection of the roll he resided in the electorate in question, and had done so for six months previously.

Property qualification.

2. Any person who claims in respect of property must show that at the time the electoral list was made up, and during the preceding six months:—

(a.) He is and has been holder of a freehold or leasehold estate of the clear value of £100, or

(b.) He is and has been in the receipt of rents and profits of the annual value of £10, arising from freehold or leasehold property, or

(c.) Occupies and has occupied a house, warehouse, office, shop, room, or building, either with or without land attached, of the annual value of £10, or

(d.) Holds and has held a Crown lease or license for pastoral purposes within the electoral district.

The six months occupation is not required to be of the same premises, provided he has occupied continuously several sets of premises of the required value he is entitled to vote.

A man must be possessed of one or other of the above qualifications to entitle him to vote in any electorate; but he can only have one vote in each electorate, no matter how many qualifications he has in that electorate. If he is qualified in several electorates he is entitled to have his name on the electoral roll in each.

Disabilities.

A person is disabled from voting by reason of the existence of any of the following disqualifications at the time of making out the electoral roll:—

1. Being of unsound mind.
2. Being in receipt of eleemosynary aid.
3. Having been convicted of treason, felony, or other infamous crime, unless he has either received a free or conditional pardon, or has served his sentence.
4. Being in the military or naval service on full pay. Membership in a volunteer or militia corps does not disqualify.

5. Being a police magistrate or member of the police force (including the Inspector-General).

"Expansion clauses" of Electoral Act

The "expansion clauses" of the Act, as they are called, provide that when an electorate which has previously returned only one member has 3,000 names on its electoral roll, or when one which returns two members is possessed of 5,000 voters, or one which returns three has reached 8,000, such electorate, in each case, is entitled to return an additional member; but the Governor must first notify the fact by proclamation in the *Gazette*.

Any natural born or duly naturalized subject of Her Majesty is capable of being elected a member of the Assembly, subject to the same disqualifications as for voters, with the following additional ones:—

1. He must not be a member of the Legislative Council.
2. He must not hold any office of profit under the Crown, either for a term of years or during pleasure.
3. He must not be in any way interested in any contract for the public service.

Offices of profit.

By the "Constitution Act Amendment Act of 1884" the disqualification of persons holding office of profit was declared not to apply to the Colonial Secretary or other member of the Ministry. The third disqualification also does not apply to any contract made by a company consisting of more than twenty persons. If any disqualified person should be elected the election is voided by the House, and should such person presume to sit or vote he is liable to a fine of £500.

Payment of Members.

By an Act, assented to on the 21st September, 1889, members of the Assembly are allowed the sum of £300 per annum to reimburse them for expenses incurred in the discharge of their Parliamentary duties.

Members must take oath of allegiance.

Before taking his seat each member must take the oath of allegiance in the prescribed form, or make an affirmation in lieu of it. A member may resign his seat at any time, and he is held to have vacated it under any of the following conditions :—Absence during a whole session without leave, naturalization in a foreign country, bankruptcy, being a defaulter, or convicted of treason, felony, or any other infamous crime.

Parliament triennial.

The Act 37 Vic., No. 7, provides that no Assembly can prolong its existence beyond the term of three years. One session, at least, must be held every year, and twelve months must not elapse between any two sessions. On first meeting after a general election, the first business is to elect a Speaker, who has only a casting vote. Twenty of the members (exclusive of the Speaker) constitute a quorum.

Writs.

Writs for general elections must be made returnable not later than thirty-five clear days after the date of the proclamation dissolving the former Parliament. Writs for general elections, and also for vacancies occurring between a general election and the meeting of Parliament for the despatch of business, are issued by the Governor. For all other elections the writs are issued by the Speaker, unless absent from the Colony, or unless no Speaker has yet been elected, when the Governor signs these writs in like manner to the others.

Election is by ballot.

Election is by ballot, the names of those entitled to vote being compiled once a year and published for general information.

Meeting of first Parliament.

The first Parliament elected under the Constitution Act met on the 22nd May, 1856, just six months after the proclamation of the Constitution. Its duration, unless Parliament should be previously prorogued, was originally fixed at five years, but in 1874 an Act was passed establishing triennial Parliaments, which has ever since remained law. Since the inauguration of Responsible Government there have been fourteen appeals to the people, so that it will be seen the duration of each Assembly has not averaged even the shorter period of life to which its existence is now limited. The subjoined table gives the duration of each Parliament elected under Constitutional Government.

Duration of Parliaments since the Establishment of Responsible Government.

Parliament.	Opened.	Dissolved.	Duration. Yr.	mth.	dy.	No. of Sessions.
First	22 May, 1856 ...	19 Dec., 1857 ...	1	6	27	2
Second	23 March, 1858 ...	11 April, 1859 ...	1	0	19	2
Third	30 Aug., 1859 ..	10 Nov., 1860 ...	1	2	11	2
Fourth	10 Jan., 1861 ...	10 Nov., 1864 ...	3	10	0	5
Fifth	26 Jan., 1865 ...	15 Nov., 1869 ...	4	9	22	6
Sixth	27 Jan., 1870 ...	3 Feb., 1872 ...	2	0	7	3
Seventh......	30 April, 1872 ...	28 Nov., 1874 ...	2	6	29	4
Eighth	27 Jan., 1875 ...	12 Oct., 1877 ...	2	8	15	3
Ninth	27 Nov., 1877 ...	9 Nov., 1880 ..	2	11	13	3
Tenth	15 Dec., 1880 ..	23 Nov., 1882 ...	1	11	8	3
Eleventh	3 Jan., 1883 ...	7 Oct., 1885 ...	2	9	4	6
Twelfth	17 Nov., 1885 ...	26 Jan., 1887 ...	1	2	9	2
Thirteenth ..	8 March, 1887 ...	19 Jan., 1889 ...	1	10	11	3
Fourteenth..	22 Feb., 1889 ...	....	....			...
		Average	2	2	4	3 to 4

Interest displayed in elections.

The amount of interest displayed by the electors in the exercise of their franchise is very considerable, though the proportion of votes recorded may not appear to sustain this view. At the general election of 1889 the total number of votes on the electoral rolls was 280,106, or 10 voters to every 39 persons in the community. In ten electorates, with 22,397 electors, returning thirteen members, there were no contests. The remaining 64 electorates, returning 120 members, comprised 257,709 electors, and of these only 154,924, or 60·11 per cent., recorded their votes.

Large area of electorates.

Owing to the vast extent of some of the electoral districts many electors can only record their votes at considerable inconvenience to themselves, and to this cause, combined with the fact that the number of non-resident voters is very considerable, must be assigned the apparently low percentage of votes recorded. The number of persons voting as compared with the number of electors on the rolls of these electorates in which there were contests has been since 1875 as follows :—

Date of General Elections.	*No. of Electors on Rolls.	†No. of Persons who voted.	Percentage of Voters to total No. on Rolls.
1875	104,575	57,651	55·13
1877	120,698	62,172	51·51
1880	140,848	90,657	64·36
1882	166,260	96,842	58·26
1885	203,669	124,378	61·07
1887	226,228	131,062	57·93
1889	257,763	154,924	60·10

* Does not include the number on the rolls in uncontested electorates.
† Includes informal votes.

Proportion of population eligible to vote.

The number of males of full age, compared with the total population, is very large, the proportion at the last census being 28·18 per cent. The number of persons entitled to vote under the system of universal suffrage which prevails amounts to an average of 27·87 per cent. of the total population, there having been 290,314 person on the electoral roll for 1889–90. The average number of electors per member at the time of the last general election was 2,044, and the estimated population to each member was 7,925.

The subjoined table gives the result of all the general elections which have taken place under Representative Government.

Parliamentary Elections.

Date of the issue of Writs.	No. of Parliament.	Voters on Roll.	Total number returned.	Members unopposed.	Votes on Roll in the Electorates where the contests took place.	Votes recorded.	Percentage of Votes recorded.	Informal Votes.	Percentage of Informal Votes.
22 May, 1856 ……	First ……	44,526	54	*	*	*	*	*	*
23 March, 1858 ….	Second ….	72,177	72	14	54,896	27,894	50·81	*	*
30 August, 1859….	Third ….	88,346	72	19	63,022	27,400	43·62	22	·08
10 January, 1861 ..	Fourth ….	106,189	72	19	75,676	28,340	37·45	29	·10
24 „ 1865 .	Fifth ….	119,872	72	15	90,736	44,311	48·84	31	·07
27 „ 1870 ..	Sixth ….	128,734	72	11	108,080	56,331	52·12	102	·18
30 April, 1872……	Seventh ..	151,798	72	8	125,488	60,004	47·82	80	·13
27 January, 1875 ..	Eighth ….	160,843	72	10	104,575	57,651	55·13	334	·58
27 November, 1877..	Ninth ….	160,945	73	16	120,698	62,172	51·51	*	
18 December, 1880..	Tenth ….	188,500	108	14	140,848	90,657	64·36	1,785	1·97
3 January, 1883 ..	Eleventh ..	196,289	113	17	166,260	96,842	58·26	2,002	2·07
17 November, 1885..	Twelfth ..	232,190	122	8	203,669	124,378	61·07	2,564	2·06
27 January, 1887 ..	Thirteenth.	256,406	124	17	226,228	131,062	57·93	2,275	1·73
19 January, 1889 ..	Fourteenth	280,160	137	13	257,763	154,924	60·10	2,641	1·70

* Unrecorded.

The Federation Question.

At the present crisis of affairs a notice of the constitution and Government of the Colony would be incomplete without some reference to the question of Australian Federation, which is now more prominently before the public than it has been at any previous stage of Colonial history. It has already been shown, in the initial chapter of this work, that the question was not overlooked by the framers of the first free Australian Constitution, who proposed the establishment of a General Assembly "to make laws in relation to those intercolonial questions that have arisen, or may hereafter arise," and who, in fact, sketched out a tolerably comprehensive federation scheme. Unfortunately, however, that proposition was included with another for the creation of hereditary nobility, and in the storm of opposition and ridicule with which the latter idea was greeted, the former sank out of sight. From time to time since Responsible Government came into being the evil of want of union among the Australian Colonies has been forcibly apparent, and the idea of federation has gradually become more and more popular among the people. Some years ago the movement took such shape that, as the result of an intercolonial conference, the matter came before the Imperial Parliament, and a measure was passed, permitting the formation of a Federal Council, to which any colony that felt inclined to join could send delegates. The first meeting of that Federal Council was held at Hobart, in January, 1886. The Colonies represented were Victoria, Queensland, Tasmania, Western Australia, and Fiji. New South Wales, South Australia, and New Zealand declined to join, but South Australia sent representatives to a subsequent meeting. The Council has held three meetings, at which several matters of intercolonial interest were discussed; but, as from its very inherent constitution, it was only a deliberative body, having no executive functions whatever, it possessed no control of funds or other means to put its legislation into force. The advocates of Federation were therefore dissatisfied with the position the question was in, and agitation was instituted with a view of bringing about a more satisfactory state of things.

Federal Council.

Federation Conference.

An important step towards the federation of the Australasian Colonies was taken in February, 1890, when a Conference, consisting of representatives of each of the seven Colonies of Australasia, was held in the Parliament House, Melbourne. The Conference met on February 6, and there were thirteen members present, being two representatives from each of the Colonies, except Western Australia which sent only one, Sir Henry Parkes, Premier and Colonial Secretary, and Mr. W. McMillan, Colonial Treasurer, representing New South Wales. Mr. Duncan Gillies, Premier of Victoria, was elected President of the Con

Address to the Queen.

erence. The members held seven meetings, and discussed the uestion before them at considerable length. At the last meeting he Conference adopted an address to the Queen, expressing their oyalty and attachment, and enclosing the following resolutions s the result of the Conference :—

1. That, in the opinion of this Conference, the best interests and the present and future prosperity of the Australian Colonies will be promoted by an early union under the Crown ; and while fully recognising the valuable services of the members of the Convention of 1883 in founding the Federal Council, it declares its opinion that the seven years which have since elapsed have developed the national life of Australia in population, in wealth, in the discovery of resources, and in self-governing capacity to an extent which justifies the higher act, at all times contemplated, of the union of these Colonies, under one legislative and executive Government, on principles just to the several Colonies.
2. That, to the union of the Australian Colonies contemplated by the foregoing resolution, the remoter Australasian Colonies shall be entitled to admission at such times and on such conditions as may be hereafter agreed upon.
3. That the Members of the Conference should take such steps as may be necessary to induce the Legislatures of their respective Colonies to appoint, during the present year, Delegates to a National Australasian Convention, empowered to consider and report upon an adequate scheme for a Federal Constitution.
4. That the Convention should consist of not more than seven Members from each of the self-governing Colonies, and not more than four Members from each of the Crown Colonies.

PART XIX.

Finance and Public Wealth.

THE Public Revenue of New South Wales largely exceeds that of any other Australian Colony. The total amount raised by each colony during 1889, as well as the revenue per inhabitant, was as follows :—

Colony.	Total Revenue.	Revenue per head of population.
	£	£ s. d.
New South Wales............................	9,063,397	8 4 2
Victoria..	8,642,744	7 16 6
Queensland....................................	3,440,249	8 13 3
South Australia	2,270,433	7 1 3
Western Australia..........................	442,725	10 6 4
Tasmania	678,909	4 11 3
New Zealand	3,991,919	6 10 0
Revenue of Australasian Colonies..	28,530,376	7 12 10

Revenue for 1825.

Reliable information respecting the revenue and expenditure of New South Wales is not obtainable earlier than 1825, in which year the public receipts amounted to £71,682, and the expenditure to £93,020. Sixty-four years afterwards, at the close of 1889, the revenue had increased more than one hundred and twenty fold, though the population had, during the same interval, increased only about thirty-three fold. From 1825 to 1840, a date memorable in the annals of the Colony as that in which transportation ceased, the advance in the revenue was very rapid. In that year the public receipts amounted to £683,112, a sum not again reached until 1853 two years after the discovery of gold. From 1853 to 1859 the revenue made great strides, and amounted to £1,522,668 for the year last mentioned. On the 1st December, 1859, the separation of Queensland took place, and there was consequently a falling off in the revenue of this Colony in the following year, the amount collected being £1,308,925. Since 1860 the income of the Colony has increased in a fairly regular manner, as may be seen from the following statement :—

Steady increase in revenue.

Revenue of New South Wales.

Year.	Amount.	Year.	Amount.
	£		£
1861	1,421,831	1876	5,037,661
1862	1,557,639	1877	5,751,878
1863	1,534,187	1878	4,991,919
1864	1,661,805	1879	4,481,665
1865	1,899,468	1880	4,911,990
1866	2,012,079	1881	6,714,327
1867	2,012,042	1882	7,418,536
1868	2,107,157	1883	6,470,341
1869	2,202,970	1884	7,117,592
1870	2,102,697	1885	7,587,368
1871	2,238,900	1886	7,594,300
1872	2,812,011	1887	8,582,811
1873	3,330,913	1888	8,886,360
1874	3,514,314	1889	9,063,397
1875	4,126,303		

Classification of revenue.

The revenue is usually classified under four heads, Taxation, Land Revenue, Services (including revenue from railways, tram-

Total receipts. ways, posts, telegraphs, and fees of various kinds), and Miscellaneous. The total receipts under each class since 1871 were as follows :—

Classification of Revenue.

Year.	Taxation.	Land Revenue.	Services.	Miscellaneous.
	£	£	£	£
1871	1,063,204	497,978	561,679	116,039
1872	1,200,203	840,453	659,770	111,585
1873	1,364,806	1,137,914	728,875	99,318
1874	1,200,489	1,426,166	770,895	116,764
1875	1,122,002	2,020,629	858,497	125,175
1876	1,161,406	2,773,003	965,327	137,925
1877	1,233,132	3,236,277	1,119,532	162,937
1878	1,309,718	2,325,704	1,183,582	172,915
1879	1,272,721	1,632,024	1,328,302	248,618
1880	1,417,294	1,646,436	1,594,082	254,178
1881	1,770,849	2,820,988	1,945,076	177,414
1882	1,903,412	2,914,394	2,363,085	237,645
1883	1,891,708	1,656,069	2,666,731	255,833
1884	2,152,854	1,753,344	2,942,643	268,751
1885	2,252,651	1,876,452	3,168,463	289,802
1886	2,611,835	1,643,954	3,089,235	249,276
1887	2,664,548	2,378,995	3,245,907	293,361
1888	2,681,883	2,268,253	3,664,100	272,124
1889	2,677,169	2,137,563	3,924,955	323,710

Refunds. The amounts given above, as well as in the other tables referring to revenue and expenditure, represent the gross amounts. In every year there are considerable refunds made, so that the figures are somewhat too high. The amount of the refunds is now much less than formerly.

Taxation very light.

Though a revenue of £9,063,397 is derived from a population of little more than 1,120,000 the people of New South Wales are very lightly taxed, the amount falling upon each person in the community for the last eighteen years averaging only £2 5s. 9d., of which amount the bulk is obtained indirectly through the Customs House:—

Taxation per Head.

Year.	Amount of taxation per head.	Year.	Amount of taxation per head.
	£ s. d.		£ s. d.
1872	2 5 7	1882	2 7 11
1873	2 10 2	1883	2 5 4
1874	2 2 6	1884	2 8 10
1875	1 18 5	1885	2 8 4
1876	1 18 5	1886	2 13 4
1877	1 19 3	1887	2 12 2
1878	1 19 10	1888	2 10 5
1879	1 16 10	1889	2 8 6
1880	1 19 1		
1881	2 6 7	Average for 18 years	£2 5 9

Increased revenue per head.

The increase per head during the years immediately following 1880 is due chiefly to the income derived from stamps. The year 1886 showed an increase of 5s. per head over 1885, which was due to the imposition of additional customs duties during that year. There was a slight decrease during 1887, arising from the repeal of the tariff of the previous year, which took effect on the 1st October, 1887, and a still further decline in 1888 and 1889, due to the same cause.

Revenue from taxation.

It has been estimated that the total annual income of the inhabitants of the Colony is approximately £62,950,000. The revenue derived from taxation was, as shown below, £2,677,169; equivalent, therefore, to a tax of 4·25 per cent. on the income of each person in the community. Dividing the revenue derived from taxation into the four main divisions of Customs, Excise, Stamps, and Licenses, the amount received under each head during the year 1889 was :—

Revenue from Taxation, 1889.

	£	£
CUSTOMS :—		
Spirits	800,711	
Wine	47,942	
Ale and beer	79,935	
Tobacco and cigars	230,840	
Tea	108,926	
Coffee and chicory	11,238	
Sugar and molasses	166,081	
Opium	24,284	
Rice	17,448	
Dried fruits	55,364	
Other specific duties	354,314	
Bonded warehouse, 20 Vic., No. 21	8,752	
Rent of goods in Queen's warehouses, &c.	48	
Total, Customs	....	1,905,883
EXCISE :—		
Ale, beer and porter	118,939	
Duty on spirits distilled in the Colony	16,494	
Duty on tobacco, cigars, and cigarettes	124,560	
Tobacco factory license fees	1,378	
Total, Excise	....	261,371
STAMPS	....	379,519
LICENSES :—		
Wholesale spirit dealers	8,460	
Auctioneers	4,633	
Retail and fermented spirituous liquors	100,148	
Billiard and bagatelle licenses	9,010	
Distillers and rectifiers	95	
Hawkers and pedlers	2,534	
Pawnbrokers	670	
Colonial wine, cider, and perry licenses	1,418	
Licenses under the Gunpowder Act of 1876	770	
Licenses to sell tobacco, cigars, and cigarettes	2,116	
All other licenses	542	
Total, Licenses	....	130,396

SUMMARY :—

Customs	1,905,883	
Excise	261,371	
Stamps	379,519	
Licenses	130,396	
Total, Taxation		£2,677,169

Revenue from Customs and Excise.

Under the heads of Trade and Commerce will be found some particulars of the revenue from Customs as well as that obtained from Excise. The cost of collecting revenue by the Customs Department averages about three per cent., a very moderate sum, when the large area of the Colony and the length of its frontiers are considered.

Stamp Duties

Stamp Duties were abolished in 1873, but reimposed in 1880. During 1889 they yielded a revenue of £379,519, or about 6s. 10d per head, while the cost of collection was very trifling, amounting to £4,529, or a little over one per cent. of the amount received.

Probate Duty.

In addition to the above, a duty is levied on the value of estates of deceased persons, and on settlements of property taking effect after the death of the testator.

Sale of liquors.

Licenses.

The sale of fermented and spirituous liquors is regulated by Acts 45 Victoria No. 14, and 46 Victoria No. 24. Under the provisions of these Acts five descriptions of licenses are authorized :—

(*a*) Publicans' licenses, for which an annual fee of £30 is payable.

(*b*) Packet licenses—1st class, for vessels over 1,000 tons, £15; 2nd class, from 250 to 1,000 tons, £10; and 3rd class, for vessels of under 250 tons, with a license fee of £3.

(*c*) Colonial wine licenses, annual fee, £3.

(*d*) Booth or stand licenses, fee £2; and

(*e*) Brewers' or spirit merchants' licenses, fee £30 if within, and £20 if outside, the boundaries of the city of Sydney.

Revenue from publicans' licenses.

The revenue received during 1889 from these various licenses amounted to £130,396, of which £100,148 was from publicans and similar retailers, £1,418, from colonial wine sellers, and £8,460 from brewers and spirit merchants. The following was the number of licenses issued during 1889:—

Publicans	3,405
Colonial wine	472
Distillers	1
Brewers	81
Spirit merchants	285
Total	4,244

Amended Licensing Act.

Besides the above, there were 53 licenses for the distillation of brandy, 8 for scientific distillation, and 6 apothecaries' distilling licenses. There were 856 holders of publicans' licenses in the metropolitan district, and 2,549 in the remainder of the Colony; in the former case representing 1 licensed house to every 446 residents, while in the latter the proportion is 1 to every 290 residents. During the past twelve years the number of licensed houses has increased from 3,312 to 3,405, although, as will be seen from the subsequent table, in proportion to population there has been a large decrease. There has been an absolute decrease in the number of houses since 1881, attributable to the operations of the Licensing Act, which came into force in that year. By this Act the granting of licenses was taken out of the hands of the ordinary Bench of Magistrates and entrusted to a Licensing Court, comprising magistrates specially appointed. The alteration in the composition of the Licensing Court led to a stricter scrutiny of applicants, and a consequent decrease in the number of licenses granted. The Act has also operated to decrease the number of hotels, by requiring a specified number of rooms for the accommodation of travellers, which was greater than was possessed by many of the houses that were licensed under the former Act.

Licensed Public-houses.

Year.	Number of Licensed Houses.			Number of Residents in District to each House.		
	Metropolitan.	Extra-Metropolitan.	Total.	Metropolitan.	Extra-Metropolitan.	Total.
1878 ...	871	2,441	3,312	221	196	203
1879 ...	879	2,409	3,288	237	208	216
1880 ...	883	2,464	3,347	249	212	222
1881 ...	872	2,564	3,436	276	210	227
1882 ...	940	2,123	3,063	264	265	265
1883 ...	923	2,151	3,074	291	274	279
1884 ..	824	2,320	3,144	351	265	287
1885 ...	823	2,356	3,179	382	273	301
1886 ...	840	2,391	3,231	398	279	310
1887 ...	846	2,424	3,270	415	285	316
1888 ..	858	2,510	3,368	427	286	322
1889 ..	856	2,549	3,405	446	290	329

REVENUE FROM CROWN LANDS.

Revenue from Crown lands.

The income derived from the Crown lands of the Colony has varied very considerably during the past twenty years, the lowest amount received being in 1871, when the revenue was only £497,978, or, at the rate of 19s. 7d. per head, while the greatest sum was obtained in 1877, when the receipts amounted to £3,236,277, or at the rate of £5 2s. 11d. per head of the population. The revenue for 1889 amounted to £2,137,563 grouped under the following heads :—

	£
SALES :—	
Auction sales	160,695
Improved purchases, &c.	43,202
Deposits on conditional purchases	111,134
Instalments on conditional purchases (inclusive of interest)	607,205
Balances on conditional purchases	105,761
Miscellaneous purchases	10,794
Total, Land sales	£1,038,791
Interest on land conditionally purchased	£110,380
PASTORAL OCCUPATION :—	
Pastoral leases (runs) 15 years	512,481
Conditional leases	101,416
Annual leases	26,473
Occupation licenses	214,166
Homestead leases, 15 years	35,888
Quit rents	566
Scrub case	1
Total, Pastoral occupation	£890,991

	£
MINING OCCUPATION :—	
Mineral leases	27,479
Mineral licenses	1,973
Leases of auriferous lands	14,075
Miners' rights	6,965
Business licenses	2,892
Total, Mining occupation	£53,384
MISCELLANEOUS LAND RECEIPTS :—	
Licenses to cut timber, &c.	16,794
Fees on transfer of runs	602
Fees on preparation and enrolment of title-deeds	3,858
All other receipts	22,763
Total, Miscellaneous Land receipts	£44,017
Total, Land revenue	£2,137,563

Falling off in land revenue.

A very great falling off in the land revenue will be observed from 1883 to 1886. This was due in the first instance to the stoppage of auction sales in 1883, and secondly, to the difficulties encountered in bringing the Crown Lands Act of 1884 into operation. These difficulties have now been overcome, with the result that a considerable increase in revenue was obtained in 1887 and 1888, with a slight decline in 1889 from the previous year's receipts.

Land revenue.

The total income derived from land since 1872 is given below, while the amount per head of population will be found on page 677 :—

Year.	Land Revenue.	Year.	Land Revenue.
	£		£
1872	840,453	1881	2,820,988
1873	1,137,914	1882	2,914,394
1874	1,426,166	1883	1,656,069
1875	2,020,629	1884	1,753,344
1876	2,773,003	1885	1,876,452
1877	3,236,277	1886	1,643,954
1878	2,325,704	1887	2,378,995
1879	1,632,024	1888	2,268,253
1880	1,646,436	1889	2,137,563

Revenue derived from sales and occupation of Crown lands.

The revenue derived from the Crown lands may be divided into two main classes—receipts from sales, and from pastoral, mining, or other occupation. The amounts received under each head were as follows :—

Year.	Sales.	Occupation.	Year.	Sales.	Occupation.
	£	£		£	£
1872	436,483	403,970	1881	2,483,338	337,650
1873	845,410	292,504	1882	2,455,041	459,353
1874	1,163,572	262,594	1883	1,269,469	386,600
1875	1,760,570	260,059	1884	1,363,483	339,861
1876	2,513,404	259,599	1885	1,314,357	562,095
1877	2,967,857	268,420	1886	1,206,438	437,516
1878	2,076,004	249,700	1887	1,221,776	1,157,219
1879	1,386,687	245,337	1888	1,212,283	1,055,970
1880	1,382,026	264,410	1889	1,149,171	988,392

Practice of treating proceeds of sales as revenue.

The practice of treating money derived from the sale of Crown lands as revenue obtains in all the Australian Colonies, and the money so raised forms one of the largest items of their annual income. In New South Wales the sums realized from this source have been in certain years so considerable as to leave a large surplus when all charges upon the public revenue were defrayed. The revenue derived from the sale of Crown lands may be subdivided into receipts from *(a)* Auction sales and selections after auction; *(b)* Improvements and other purchases; and *(c)* Con-

Revenue from Crown lands sold at auction.

Auction sales. ditional sales. Auction sales were to a large extent suspende in 1883, but previously to that year the income derived fro this source was very large, as the following figures show :—

Year.	Auction sales.	Selections after auction.	Total.
	£	£	£
1871	92,994	24,530	117,524
1872	89,129	89,588	178,717
1873	300,229	104,496	404,725
1874	553,973	106,042	660,015
1875	1,019,053	102,440	1,121,493
1876	1,561,243	98,280	1,659,523
1877	1,967,057	166,730	2,133,787
1878	1,061,670	124,197	1,185,867
1879	698,981	66	699,047
1880	437,964	42,495	480,459
1881	566,404	351,885	918,289
1882	707,594	417,715	1,125,309
1883	179,403	37,480	216,883
1884	95,772	767	96,539
1885	116,014	....	116,014
1886	111,083	....	111,083
1887	172,553	....	172,553
1888	207,052	... .	207,052
1889	160,695	....	160,695

Large alienations at auction.

It will be observed that the alienation of the public estate by means of auction sales and unconditional selections after auction attained its highest point during the years 1875 to 1878. A temporary lull took place in the two following years, but in 1881 and 1882 the auction sales of Crown lands reached nearly the same proportions as before. It was not until it had become evident that this indiscriminate sale of the public estate was threatening to endanger the true interests of the country that this form of alienation was stopped. In 1883, auction sales were almost completely suspended, the receipts from this source immediately falling from £1,125,309 in 1882 to £96,539 in 1884, £207,052 in 1888, and £160,695 in 1889.

Limitation of auction sales.

The fact had forced itself upon the attention of the authorities that this wholesale alienation of Crown lands was not due to the demand created by the normal progress of settlement, but was the outcome of an unhealthy rivalry between the two principal classes of settlers—the pastoral tenants, and the free selectors. Besides this, the estate of the country was being parted with without any conditions as to improvements or settlement, and as the great object of land sales was to promote settlement, it was deemed advisable by the Government to temporarily suspend land sales by auction, and ultimately it was decided to sell only a limited area (200,000 acres) during any one year.

Improvement and pre-emptive purchases.

Another portion of the land revenue is obtained from the sales, without competition, to the legal occupiers, of Crown lands improved to the value of £1 per acre. To this form of alienation may be added purchases of land made by right of pre-emption on a fixed proportion of the total area held under lease in certain cases.

Revenue from improvement purchases and pre-emptive sales.

From these sources (improvement purchases and pre-emptive sales) the following amounts were received into the Colonial Treasury since the year 1877 :—

Year.	Improvement Purchases.	Pre-emptive Right Sales.	Total.
	£	£	£
1877	133,357	77,263	210,620
1878	239,944	20,046	259,990
1879	156,471	4,743	161,214
1880	245,094	5,799	250,893
1881	494,262	2,908	497,170
1882	179,949	1,041	180,990
1883	116,558	1,345	117,903
1884	305,455	4,450	309,905
1885	413,935	29	413,964
1886	260,526	....	260,526
1887	166,117	....	166,117
1888	86,913	....	86,913
1889	43,202	....	43,202

Revenue from conditional sales.

Conditional sales formed the main feature of the Land Act of 1861. From 1862, when these sales commenced, to 1889, the nominal area of land sold conditionally amounted to 27,870,641 acres, or equal to 14·02 per cent. of the total area of the Colony. According to figures furnished by the Lands Department the total receipts in respect of such land were :—

For deposit	£6,451,631
Balance and instalments of purchase money...	4,842,050
Interest	2,952,749
Total	£14,246,430

Total receipts from conditional sales.

The following table shows the gross amounts received during each of the fourteen years ending with 1889, as well as the total since this class of sales was first permitted.

Revenue from Conditional Sales.

Year.	For Deposit.	For Balance of Purchase.			For Interest.	Gross amount realized.
		Balance.	Instalments.	Total.		
	£	£	£	£	£	£
1862 to 1875	2,083,414	301,980	....	301,980	383,929	2,769,323
1876	496,053	68,834	....	68,834	99,329	664,216
1877	424,954	71,853	....	71,853	126,657	623,464
1878	398,729	47,060	23,775	70,835	160,581	630,145
1879	232,285	37,031	87,131	124,162	171,148	527,595
1880	293,113	41,849	113,603	155,452	204,634	653,199
1881	592,966	92,009	129,547	221,556	253,357	1,067,879
1882	621,617	109,667	129,921	239,588	287,527	1,148,732
1883	424,968	58,314	137,277	195,591	310,676	931,235
1884	381,550	61,466	183,081	244,547	326,184	952,281
1885	121,437	68,139	440,286	508,425	151,658	781,520
1886	112,892	74,504	514,162	588,666	129,978	831,536
1887	92,203	96,562	562,019	658,581	123,091	873,875
1888	92,910	100,827	578,187	679,014	113,620	885,544
1889	82,540	105,761	607,205	712,966	110,380	905,886
Total	6,451,631	1,335,856	3,506,194	4,842,050	2,952,749	14,246,430

Note.—This statement was compiled from data furnished by the Lands Department, and differs slightly from the Treasury figures given elsewhere.

Large sums refunded.

The figures in the foregoing table represent the gross amounts paid, but in the case of the deposits large sums were received which were afterwards refunded, as the ground applied for was not open to selection. The area set down as sold conditionally is on this account also greatly overstated, and, moreover, includes the area of selections which became forfeited for non-fulfilment of conditions, or on other grounds. The actual area sold conditionally up to the close of 1889 was 19,324,775 acres, and the area for which title deeds have been issued was 1,750,716, leaving a balance of 17,574,059 acres on which the conditions remain unfulfilled.

The refunds of deposits paid on land conditionally selected have reached considerable amounts in some years, as will be seen from the following statement :—

Year.	Amount of refunds.	Year.	Amount of refunds.
	£		£
1880	28,256	1885	85,868
1881	72,475	1886	69,024
1882	92,804	1887	41,986
1883	132,092	1888	35,319
1884	134,932	1889	30,602

Revenue from pastoral occupation.

Another portion of the annual land revenue of the Colony is derived from rents for pastoral occupation, and mineral and othe leases. During 1886 the revenue obtained from this source amounted to only £374,920, as the rents were collected according to the old assessment, but it was estimated that more than £500,000 was due at the close of the year for rents accumulating during the previous eighteen months. By an Act of the Legislature, assented to on the 13th July, 1887, the arrears of rent were made payable over a period of two years, with interest at the rate of 5 per cent. During 1887 the rents were paid on the basis of the new tenure, and a large increase is therefore observable under the head of pastoral leases and occupation licenses. The following table gives the annual revenue from pastoral occupation for the eleven years, 1879-89 :—

Head of Revenue.	1879.	1880.	1881.	1882.	1883.	1884.	1885.	1886.	1887.	1888.	1889.
	£	£	£	£	£	£	£	£	£	£	£
Pastoral leases	158,776	165,952	221,149	343,333	273,486	268,155	140,436	131,893	644,279	526,447	512,481
Annual and special leases	51,650	55,743	63,968	65,417	66,167	60,694	15,872	17,914	17,648	22,554	26,474
Conditional and auction leases	......	......	......	......	......	......	37,592	59,558	67,974	87,896	101,416
Occupation licenses	......	.. ...	......	......	......	......	294,686	153,493	329,010	252,121	214,166
Homestead leases	......	......	......	.. ...	......	......	15,801	10,660	20,167	27,266	35,888
Quit rents	407	930	886	494	477	507	202	1,402	456	906	566
Total	210,833	222,625	286,003	409,244	340,130	329,356	504,589	374,920	1,079,534	917,190	890,991

Revenue from mining Leases.

The revenue derived from mining occupation has not been large, though somewhat brighter since 1884 than previous to that year, a circumstance due chiefly to the increased attention paid to silver-mining. The following table gives the revenue under each head for the last ten years :—

Year.	Amount.	Year.	Amount.
	£		£
1880	20,251	1885	31,415
1881	20,283	1886	31,242
1882	20,248	1887	43,961
1883	17,748	1888	95,347
1884	28,080	1889	53,384

REVENUE FROM RAILWAYS AND OTHER SERVICES.

Revenue from services.

The revenue derived from services rendered now exceeds that from either taxation or land,—the respective proportion under each head for 1887, 1888, and 1889 being :—

	1887	1888	1889
	per cent.	per cent.	per cent.
Services	37·8	41·2	43·3
Taxation....................................	31·0	30·2	29·5
Land	27·7	25·5	23·6
Miscellaneous	3·5	3·1	3·6

Government is owner of railways, &c.

The Government of New South Wales is the owner of all the railways constructed in the Colony, with the exception of the line between Moama and Deniliquin, and that from Broken Hill to the South Australian border, the former 45 miles long and the latter about 36 miles. It owns, also, the entire telegraphic and telephonic system of the Colony, as well as the Post Office. From these, and some other minor sources, the revenue, classed under the head of Services, was obtained. The total amount received for Services during the year 1889, under the different heads, was :—

Revenue from Services during 1889.

	£	£
Railway and tramway receipts	....	2,875,135
Post Office :—		
Postage	395,501	
Telegraph receipts	186,624	
Commission on money orders	15,863	
		597,988
Mint receipts	....	12,084
Fees for escort and conveyance of gold	....	528
Pilotage, harbour and light rates, and fees	....	67,355
Registration of brands	....	1,391
Public School fees	....	72,320
Metropolitan Water Rates	....	147,071
Country Towns Water Rates	....	3,188
Rabbits account assessment	....	47,518
Fees of office :—		
Certificates of naturalization	126	
Registrar-General	33,955	
Prothonotary of Supreme Court	9,482	
Master in Equity	2,950	
Curator of Intestate Estates	2,244	
In Bankruptcy and Insolvency	4,876	
Sheriff	2,357	
District Courts	8,688	
Courts of Petty Sessions	9,686	
Shipping Masters	3,011	
Other fees	23,002	
		100,377
Total receipts from Services	£	3,924,955

Total revenue from services.

The total revenue derived from Services during each year since 1871 will be found in the following table, and the amount per head of population will also be found in a subsequent table :—

Year.	Revenue from Services.	Year.	Revenue from Services.
	£		£
1871	561,679	1881	1,945,076
1872	659,770	1882	2,363,085
1873	728,875	1883	2,666,731
1874	770,895	1884	2,942,643
1875	858,497	1885	3,168,463
1876	965,327	1886	3,089,235
1877	1,119,532	1887	3,245,907
1878	1,183,582	1888	3,664,100
1879	1,328,302	1889	3,924,955
1880	1,594,082		

There was an increase during every year of the above series, 1886 excepted, both in the total amount received and the rate per head. The falling off in 1886 is due to a decline in the amount received from the railways, which was in that year £103,552 less than in 1885. The gross amount of revenue derived from the railways of the Colony, as also the working expenses, during each year since 1871, will be found below. The figures given are from the books of the Railway Department, and differ somewhat from the Treasury returns. It has been the practice of the Department to keep its books open a few months beyond the financial year for the receipt and payment of accounts of the previous year, whereas the Treasury books are closed on the 31st December :—

Railway—earnings and expenditure.

Railways : Earnings and Expenditure.

Year.	Railway Earnings.	Working Expenses.	Year.	Railway Earnings.	Working Expenses.
	£	£		£	£
1871	355,322	197,065	1881	1,444,226	738,334
1872	424,989	207,918	1882	1,698,863	934,635
1873	484,236	238,035	1883	1,931,464	1,177,788
1874	536,575	257,703	1884	2,086,237	1,301,259
1875	614,648	296,174	1885	2,174,368	1,458,153
1876	693,225	339,406	1886	2,160,070	1,492,992
1877	815,920	418,985	1887	2,208,295	1,457,761
1878	902,989	536,988	*1888	2,295,124	1,530,551
1879	952,366	604,721	*1889	2,538,477	1,634,002
1880	1,161,017	647,719	*1890	2,633,086	1,665,835

* Year ending June 30th.

Railways—revenue and expenditure.

The question of railways and tramways is fully discussed in the chapter on Internal Communication, but a passing reference here will not be out of place. The total revenue derived from the railways, properly so called, for the year ending June, 1890, was £2,633,086, against which sum there was a charge of £1,665,835 for working expenses alone, leaving the net earnings £967,251. The amount of money invested in the railways of the Colony upon lines open for traffic on June 30th, 1890, was £30,555,123, and the net earnings given above represent a return of 3·176 per cent. The net income earned expressed as a per centage of capital, shows a satisfactory increase since 1888, but is still much below the figures of all years from 1871 to 1884. The actual result realized in any given year is not however to be taken as the sole index of the value of the railways of the Colony. The full value of a work cannot be judged until it is completed, and the railways are essentially an incomplete work, for each year sees an extension of the lines in operation and a further investment of capital, which the proved resources of the country amply justify, though the result cannot be felt until after the lapse of many years.

Largest revenue obtained from railways.

The largest return for capital invested in railways was obtained in 1881, when the interest amounted to 5·307 per cent., a figure considerably in excess of the rate paid by the Colony for its railway loans. The interest payable on these loans now averages 3·97 per cent., and this rate has been largely exceeded during the majority of years which have elapsed since 1873. The deficiency for the year ended June, 1890, was 0·80 per cent., equivalent to £140,643, which was made good out of the general revenue. In this connection it may be remarked that the Colony, as will be seen from page 691, can now borrow in the London market at somewhat less than 3½ per cent., so that the railways yield nearly as large a return as the Colony pays to its creditors. As however not an inconsiderable part of the railway loans were raised when credit was much lower than it is at present, the average interest is therefore 3·97 per cent. as given above.

Revenue from tramways.

The revenue derived from the public tramways has increased year by year since the system was introduced in 1879, but the working expenses have also increased, though it is satisfactory to note that the expenses apparently reached a maximum in 1884, and the amount available towards the payment of interest has increased since that year. The earnings of the tramways, as well as the expenditure in connection therewith, will be found under Internal Communication, on page 571.

Revenue from Posts and Telegraphs.

The receipts from the Post and Telegraph services of the Colony have increased substantially year by year, but so also has the expenditure. Although the sum of £597,988 was obtained during 1889 from this source, the expenditure amounted to £628,182, showing a loss on the year's transactions of £30,194, in addition to the amount of interest payable on the debt incurred for these works. In 1889 the Postal, as distinguished from the Telegraphic and Money Order business, showed a profit for the first time, amounting to £1,977. Although these services are carried on, as far as possible, on commercial principles a deficit has been experienced hitherto, caused by the desire of the Government to extend the facilities of both the post and telegraph to every part of the Colony. And so important has this policy appeared that it has been carried out with considerable loss, as will be seen from the following table. It is quite possible that the principle of affording the benefit of postal and telegraphic communication to every district of New South Wales would be adhered to even if the system ultimately failed to become self-supporting; but the time cannot be far distant when the revenue derived will more than meet the expenses.

Revenue and Expenditure.

Postal and Telegraphic Services.

Year.	Revenue.	Expenditure.	Year.	Revenue.	Expenditure.
	£	£		£	£
1877	224,449	311,614	1884	442,964	542,182
1878	226,405	351,642	1885	472,564	570,999
1879	259,170	383,391	1886	486,218	610,651
1880	286,134	396,301	1887	524,298	634,077
1881	330,414	421,594	1888	562,909	616,371
1882	358,525	446,658	1889	597,988	628,182
1883	403,794	504,055			

Receipts from Miscellaneous Services.

The miscellaneous receipts under the head of Services comprise fees of office, which amounted to £100,377 in 1889; public school fees, £72,320; pilotage and harbour fees, £67,355; mint and escort receipts, £12,612; registration of brands, £1,391; Metropolitan water rates, amounting to £147,071; and country towns water rates, £3,188; Rabbit Account Assessment, £47,518; the total being £451,832. The revenue derived from the services above mentioned are merely nominal, as the cost and value of the service performed generally far exceed the revenue. The amount received during each year, from 1871 to 1889, was:—

Year.	Miscellaneous Services.	Year.	Miscellaneous Services.
	£		£
1871	81,534	1881	154,978
1872	88,929	1882	176,466
1873	86,803	1883	181,809
1874	88,334	1884	197,666
1875	95,825	1885	203,209
1876	96,053	1886	213,879
1877	95,136	1887	201,274
1878	96,892	1888	341,911
1879	92,234	1889	451,832
1880	118,384		

Miscellaneous items of revenue

The revenue derived from other sources besides Taxation, Lands, and Services, amounted to only £323,710 in 1889, made up chiefly by rents, fines, and forfeitures, and a variety of miscellaneous receipts, as will be seen hereunder:—

	£
Rents of Government Property other than land	66,825
Fines and forfeitures	15,378
Interest on bank deposits	42,237
Other receipts	199,270

Revenue per head of the population.

The total revenue of the Colony amounted in 1889 to £8 4s. 2d. per head, which, though nominally a very large sum compared with the revenue of other countries, falls short of the highest amount received in any year, viz., £9 6s. 8d., in 1882, by 22s. 6d. Under the present system of taxation it is anticipated that the revenue will average about £8 per head; and though an increase may be expected in the gross amount obtained under each branch of revenue it is scarcely probable that the amount received per head will advance beyond the rate of 1889, especially as the increase in land revenue will not be proportionate to the increase in population.

Revenue per head from various sources.

The amounts received per head of population under each subdivision during the years 1871–1889 were:—

Taxation and Revenue per Head.

Year.	Taxation.	Land Revenue.	Services.	Miscellaneous.	Total Receipts.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
1871	2 1 10	0 19 7	1 2 1	0 4 7	4 8 1
1872	2 5 7	1 11 11	1 5 1	0 4 2	5 6 9
1873	2 10 2	2 1 9	1 6 9	0 3 8	6 2 4
1874	2 2 6	2 10 6	1 7 4	0 4 2	6 4 6
1875	1 18 5	3 9 2	1 9 4	0 4 3	7 1 2
1876	1 18 5	4 11 9	1 11 11	0 4 7	8 6 8
1877	1 19 3	5 2 11	1 15 7	0 5 2	9 2 11
1878	1 19 10	3 10 8	1 16 0	0 5 3	7 11 9
1879	1 16 10	2 7 3	1 18 6	0 7 2	6 9 9
1880	1 19 1	2 5 4	2 3 11	0 7 1	6 15 5
1881	2 6 7	3 14 2	2 11 2	0 4 8	8 16 7
1882	2 7 11	3 13 4	2 19 5	0 6 0	9 6 8
1883	2 5 4	1 19 8	3 3 11	0 6 2	7 15 1
1884	2 8 10	1 19 10	3 6 10	0 6 1	8 1 7
1885	2 8 4	2 0 6	3 8 0	0 6 2	8 3 0
1886	2 13 4	1 13 7	3 3 0	0 5 1	7 15 0
1887	2 12 2	2 6 6	3 3 6	0 5 8	8 7 10
1888	2 10 5	2 2 8	3 8 10	0 5 1	8 7 0
1889	2 8 6	1 18 9	3 11 1	0 5 10	8 4 2

PUBLIC EXPENDITURE.

Expenditure per head of the population.

The expenditure of the Colony, exclusive of loans during the ten years which closed with 1889, amounted on an average to £8 13s. 2d. per head—the amount for the seven years 1883 to 1889 considerably exceeding this average. During 1889 the gross expenditure amounted to £9,250,271, of which sum £8,229,262 was expended on account of services rightly chargeable to the year itself, whilst the balance, amounting to £1,021,009, was for the service of 1888 and previous years.

Expenditure under various heads in 1879 and 1889.

The percentage of expenditure has been grouped under seven heads, as shown below, with the object of comparing the present expenditure with that of ten years ago. The proportion falling under each head of service during the years 1879 and 1889 respectively, was:—

Expenditure on Services.	1879.	1889.
	per cent.	per cent.
Railways and Tramways	13·86	19·27
Post and Telegraphs	6·56	6·79
Other Public works	22·52	11·46
Public debt charge	10·00	19·52
Immigration	1·40	·08
Public Instruction	6·66	7·54
Other services	39·00	35·34

Increase in expenditure, to what traceable.

A large portion of the revenue, it will be observed, was expended on railway and tramway services. The proportion expended on education is also large, while the payments on account of the Public Debt are now proportionately twice as great as in 1879. This charge is less serious than at first sight appears, as a large part of the debt charges are recouped by the earnings of works constructed out of the loan funds. The absolute amount expended during each of the past twelve years was:—

Public Expenditure, exclusive of Expenditure from Loans, during each year from 1878 to 1889.

Year.	Railways and Tramways.	Post and Telegraphs.	Other Public Works.	Interest on Debt and Extinction of Loan.	Immigration.	Public Instruction.	Other Services.	Total Expenditure.
	£	£	£	£	£	£	£	£
1878	698,416	352,157	1,058,762	587,552	95,122	383,711	1,902,631	5,078,381
1879	809,245	383,391	1,314,819	584,339	82,123	387,786	2,277,448	5,839,151
1880	838,559	396,301	1,224,521	715,994	43,522	385,567	1,955,615	5,560,079
1881	786,269	421,594	1,139,671	719,752	45,966	552,363	2,118,068	5,783,683
1882	1,031,720	446,658	1,132,041	969,198	46,301	665,901	2,056,386	6,348,205
1883	1,439,327	504,055	1,262,806	927,905	112,319	879,120	2,669,481	7,795,013
1884	1,585,603	542,182	1,494,983	1,047,322	120,038	817,767	2,803,944	8,411,839
1885	1,729,894	570,999	1,323,991	1,300,184	52,050	751,335	2,833,681	8,562,134
1886	1,710,495	610,651	1,248,877	1,579,689	35,397	741,121	3,151,417	9,077,647
1887	1,695,716	634,077	1,179,031	1,692,421	32,251	728,003	3,254,693	9,216,192
1888	1,824,291	616,371	1,040,746	1,745,695	7,854	682,225	2,861,669	8,778,851
1889	1,782,530	628,182	1,059,534	1,805,770	8,073	697,224	3,268,958	9,250,271

Increase of public expenditure.

In a country advancing so rapidly in population as New South Wales the value of figures, such as are given in the above table, is apt to be misunderstood, for, though the absolute increase in public expenditure during the twelve years amounts to 82 per cent., the population has increased 67 per cent. Nor must the fact be overlooked that much of what is now expended out of current revenue is for the advantage of future years, and for the development of the resources of the country; and that the expenditure on certain services is incurred in order to obtain additional revenue. But even when such allowance is made it will be found there has been no slight advance, especially in some years since 1882, as will be seen from the table here given of the expenditure per head, under the several groups :—

Expenditure per Head, exclusive of Expenditure from Loans.

Year.	Railways and Tramways.			Post and Telegraphs.		Other Public Works.			Interest on Debt, &c.		Immigration.		Public Instruction.		Other Services.			Total Expenditure.		
	£	s.	d.	s.	d.	£	s.	d.	s.	d.	s.	d.	s.	d.	£	s.	d.	£	s.	d.
1878	1	1	3	10	8	1	12	2	17	10	2	11	11	8	2	17	10	7	14	4
1879	1	3	5	11	1	1	18	1	16	11	2	4	11	2	3	5	11	8	9	1
1880	1	3	1	10	11	1	13	9	19	9	1	2	10	7	2	13	11	7	13	2
1881	1	0	8	11	1	1	10	0	18	11	1	3	14	6	2	15	9	7	12	2
1882	1	5	11	11	3	1	8	6	24	5	1	2	16	9	2	11	7	7	19	7
1883	1	14	6	12	1	1	10	3	22	3	2	8	21	1	3	4	0	9	6	10
1884	1	16	0	12	4	1	13	11	23	9	2	9	18	7	3	3	8	9	11	0
1885	1	17	2	12	3	1	8	5	27	11	1	1	16	2	3	0	11	9	3	11
1886	1	14	11	12	5	1	5	6	32	3	0	9	15	1	3	4	4	9	5	3
1887	1	13	3	12	5	1	3	1	33	1	0	7	14	2	3	3	8	9	0	3
1888	1	14	3	11	7	0	19	7	32	10	0	2	12	10	2	13	9	8	5	0
1889	1	12	3	11	4	0	19	2	32	9	0	2	12	8	2	19	3	8	7	7

Increase of expenditure on railways and tramways.

The expenditure on interest on public debt shows the largest increase during the period comprised in this table, amounting to 14s. 11d. per head, while railways and tramways have increased by 11s.

The length of railway line in operation in 1878 was only 688 miles, while in 1889 the mileage had increased to 2,171, involving a proportionately large outlay for maintenance and working expenses, but, at the same time, bringing in revenue, which advanced much more rapidly than the expenditure. The tramway system, too, was inaugurated in 1879, and involved an expenditure of about 4s. per head in 1889. Public Instruction costs 1s. more than in 1878, while Public Works show a decrease of 13s. per head; Post and Telegraphs cost more by 8d. per head.

Increase of expenditure on education.

The expenditure per head on account of Public Instruction was a trifle under the figures for 1888, and was 8s. 5d. less than in 1883. The Public Instruction Act of 1880, abolishing State aid to denominational education, necessarily involved an increased expenditure from Public Revenue to supply the place of schools closed under the Act. The greatest activity was, therefore, displayed, especially during the year 1883, immediately following the closing of the denominational schools, both in the building and equipment of public schools, hence the increased expenditure per head noticeable in the table given above. Since 1883 the expenditure rapidly declined, and has now almost reached the normal average.

The increase in the expenditure for 1889 over 1878 upon Post and Telegraphs represents really an advance in the average business transacted by each member of the community, and is accompanied by a corresponding increase in the receipts from this service.

Expenditure on Public Works.

The expenditure upon public works during 1889 was considerably less per head than in 1878, and was also below that of the intervening years. The large surplus which the Government had at its disposal during the period immediately following 1877, encouraged a profuse expenditure on public works, which, under other circumstances, might not have been undertaken; hence the large increase during the years in which the surplus was available. The absence of an Act placing the responsibility of local works upon the persons actually concerned has necessitated the expenditure, out of the public funds, of large sums upon works only locally important, and, therefore, not strictly chargeable to the public revenue. The District Government Bill now before Parliament proposes to remedy this state of things, and a decrease in the expenditure upon public works may be anticipated.

Expenditure for other services.

Under the head of "Other Services" are included Civil Administration, Defence, Administration of Lands, Mining, and Law. The expenditure per head has been fairly uniform from year to year, averaging £2 19s. 3d. per head for the last ten years.

Accumulated surplus revenue at the close of each year.

The accounts of the Treasury are closed on the 31st December in each year, so that the amounts of expenditure given in the preceding tables refer to the payments made during the currency of any year, irrespective of the date at which the liability occurred or was authorized. Thus payments during 1873 included liabilities as old as 1868; while some payments in 1878 were on account of 1873 and each of the intermediate years. Similar payments occur in every year, so that the figures relating to expenditure can only be taken as a partial presentation of the financial case of the country. The following figures are self-explanatory and cover the last seventeen years; they show the actual as well as the apparent expenditure during this period:—

Year.	Expenditure for Services of each year irrespective of date of payment.*	Expenditure during each year for Services of that and previous years.	Expenditure during each year out of accumulated surplus.	Total expenditure during each year.
	£	£	£	£
1873	2,568,605	2,333,166	....	2,333,166
1874	2,965,464	2,939,227	....	2,939,227
1875	3,378,896	3,346,324	....	3.346,324
1876	3 872,064	3,769,213	....	3,769,213
1877	5,369,833	4,551,652	....	4,551,652
1878	5,079,397	5,100,326	....	5,100,326
1879	4,976,649	5,255,034	584,117	5,839,151
1880	4,977,481	5,228,792	331,287	5,560,079
1881	5,264,448	5,376,160	407,523	5,783,683
1882	6,330,936	5,824,245	523,960	6,348,205
1883	6,901,525	7,062,948	732,065	7,795,013
1884	7,657,829	7,813,414	598,425	8,411,839
1885	9,307,756	8,320,523	241,611	8,562,134
1886	8,532,463	9,005,178	72,469	9.077,647
1887	8,707,672	9,202,377	13,815	9,216,192
1888	7,769,690	8,758,640	20,211	8,778,851
1889	8,229,262	9,244,578	5,693	9,250,271

* Liabilities outstanding at the close of 1889 for that and previous years are not included.

Surplus revenue.

During the fourteen years which elapsed from 1872 to 1885, New South Wales presented the spectacle, then almost unique in these colonies, of a government with a large surplus of revenue at its disposal. The amount standing to the credit of the Consolidated Fund at the close of each year from 1872 to 1885, was:—

Year.	Accumulated surplus.	Year.	Accumulated surplus.
	£		£
1872	132,238	1879	1,341,619
1873	925,069	1880	1,440,228
1874	825,605	1881	2,927,435
1875	1,110,992	1882	3,888,753
1876	1,945,807	1883	2,511,016
1877	2,351,074	1884	1,229,338
1878	1,922,784	1885	2,900

Advances made from surplus.

The figures given above represent the amounts standing to the credit of the current account of the Consolidated Revenue. The actual surplus differed somewhat from these amounts, by reason of temporary advances made to loan or other funds out of accumulated surplus. The gross credit balance at the close of 1878 was £3,872,784. The years 1881 and 1882 also yielded surpluses to the extent of £1,441,338 and £1,086,308 in each year as named, making a total surplus of £6,400,430. For the services of 1878 and previous years the sum of £1,377,321 was expended, while in 1879, 1880, 1883, and 1884 the income was exceeded by £1,306,267, thus reducing the surplus to £3,716,842, at the close of 1884. Specific appropriations were made by Parliament out of this sum to the extent of £3,419,174, and £119,993 was written off; thus leaving a balance retained for expenditure at the close of 1884 of £177,675, the difference between the amount just stated and that shown in the preceding table having been temporarily advanced to revenue from various sources.

Proposals for meeting deficit.

The state of things depicted above was entirely changed during 1886. The disbursements from 1883 to 1886 were nominally more than the income, chiefly through the large appropriations of the surpluses of former years. Thus the year 1885 closed with a sum of £2,900 to the credit of the Revenue Fund, while 1887 opened with a nominal deficit of £1,286,581, and 1888 with a deficit of £2,179,580. In his financial statement, made on the 10th April, 1889, the Treasurer gave the amount of the deficit on the 31st March previous as £2,608,237. A proposal for wiping out this deficit has since been agreed to by Parliament; it is resolved to treat it as matter quite apart from the ordinary finances of the year, and to raise the amount on Treasury bills, to meet which £150,000 will be set aside every year.

LOANS.

First loan issue in 1841.

On the 28th December, 1841, a loan of £49,500 was issued for the purposes of immigration, having a currency of two years, and bearing interest at the rate of 5¼d. per day for each £100, or at the rate of 8 per cent. per annum. Loans for similar purposes were raised during the years 1843–6, but were met out of revenue within a few years of the date of raising. In 1851, however, a sum of £79,600 was borrowed, also for immigration purposes, part only of which was paid out of the general revenue, the remainder being met by a fresh loan; and though no loans raised prior to 1853 remain outstanding, the loan of 1851 must be taken as the actual commencement of the Public Debt of New South Wales.

Growth of the Public Debt.

From 1853 to the close of 1889, the total sum authorized to be raised by loan was £64,223,761, and the amount of debentures and inscribed stock issued and sold was £50,765,919. The gross sum realized by the floating of the various loans was £48,923,118. Securities were, however, redeemed absolutely to the extent of £4,119,470. Thus, at the close of 1889, the total of loans outstanding was £46,646,449, and the sum still to be raised, £15,182,742, which amount is less than would be got by substracting the sum realised from the loans authorised to be raised, Purposes for which loans are raised.

the difference being accounted for by the fact that in some years the amount short-raised was made good from the Consolidated Revenue Fund, while in those years when the amount was over-raised sums were transferred to the credit of that fund. The following table will show approximately the amounts in which the various services are answerable for the existing debt and accrued interest from January 1st, 1890, and the succeeding table the nominal expenditure, under the several headings, to December 31st, 1889 :—

Services.	Principal.	Interest.
	£	£
Railway and Tramways	38,560,901	1,491,864
Electric Telegraphs	696,995	30,614
Harbours and Rivers Navigation	2,117,611	86,268
Roads and Bridges	606,355	27,136
Immigration	388,763	16,995
Sewerage Works	592,123	23,654
Water Supply Works	1,858,443	72,952
Miscellaneous Public Works	1,825,258	70,161
£	46,646,449	1,819,644

The foregoing figures are, however, merely the sums which appear in the books of the Auditor-General, and do not necessarily represent actual expenditure. Thus it would appear that though the railways and tramways are debited in the Auditor-General's statement to the extent of £38,560,901, the actual expenditure was but £31,380,504 ; on the other hand, the amount of loans debited to water supply appear, from the same authority, to be £1,858,443, while the sum of £3,110,630 has been so expended, and similarly with other services. The preceding table may therefore be taken as showing the ostensible purpose for which the loans were floated, while the following shows the use to which the sums realised were put:—

Services.	Amount.
	£
Railways and Tramways	31,380,504
Electric Telegraphs	726,807
Harbours and Rivers	2,590,827
Roads and Bridges	618,799
Immigration	569,930
Sewerage Works	1,012,193
Water Supply	3,110,630
Miscellaneous Public Works and Buildings	2,015,432
Renewal of Loans	2,723,430
£	44,748,552

Present amount of public debt.

The present amount of the public debt is undoubtedly large; but no portion of it is due to war charges, and very little to works of an entirely unproductive character, so that the burden on the resources of the country is more apparent than real. The assets of the Colony amount to considerably more than four times the liabilities, and for the most part comprise securities which could readily be converted into money. At a moderate computation the public resources of New South Wales are estimated to be worth, £172,000,000, according to the details given on page 697.

Estimated value of the public resources.

Expenditure incurred on reproductive works.

The bulk of the expenditure shown in the above statement has been incurred on directly reproductive works, yielding, or capable of yielding, revenue towards meeting the charge for interest. The other works, not directly productive, have been undertaken for the development of the resources of the Colony, and for facilitating settlement. The net revenue from the public works of the country is almost entirely comprised in that derived from railways, as some of the most important works, such as sewerage of the metropolis, have not yet been finished, and, consequently, do not bring in any appreciable income. When, however, these undertakings are completed, and the railways are in full operation, the sum available to meet interest and other charges will leave little to be made good from the general revenue of the Colony. The approximate amount of interest paid during 1889 on loan money actually expended was £1,717,700; this sum is less than given in a previous table, which includes, besides interest, payments in

Revenue from reproductive works.

reduction of debt and interest on balance unexpended; the net revenue from works constructed out of loan funds was £1,203,700, leaving a deficit on this account of £514,000.

Expenditure from loans and public debt.

The following statement shows the Public Debt, nominal and actual expenditure on Public Works, &c., and rate per head of population, as well as payment in redemption of loans and amount of loans authorized but not raised, during each year:—

Expenditure from Loans and amount of Public Debt, 1879-1889.

Year.	Public debt at close of each year.		*Nominal expenditure, inclusive of payments in redemption of loans.	
	Amount.	Per inhabitant.	At close of each year.	During each year.
	£	£ s. d.	£	£
1879	14,937,419	21 12 6	16,437,443	1,271,705
1880	14,903,919	20 1 9	18,106,081	1,668,638
1881	16,924,019	21 14 8	20,503,449	2,397,368
1882	18,721,219	23 1 9	23,336,208	2,832,759
1883	21,632,459	25 4 5	26,601,919	3,265,711
1884	30,101,959	33 6 0	30,276,625	3,674,706
1885	35,564,259	37 2 6	34,172,770	3,896,145
1886	41,034,250	40 19 1	37,939,126	3,766,356
1887	40,995,350	39 6 2	39,904,145	1,965,019
1888	44,100,149	40 14 6	†42,382,552	†2,478,407
1889	46,646,449	41 11 4	†44,748,552	†2,366,000

Year.	*Actual expenditure on public works and services.				Payment in redemption of loans during each year.	Amount of loans authorized, but not raised.
	At the close of each year.		During each year.			
	Amount.	Per inhabitant.	Amount.	Per inhabitant.		
	£	£ s. d.	£	£ s. d.	£	£
1879 ...	15,102,213	21 17 4	1,271,705	1 16 10	......	8,729,123
1880 ...	16,770,851	22 12 1	1,668,638	2 5 8	......	9,891,123
1881 ...	19,168,219	24 12 3	2,397,368	3 3 0	......	16,585,993
1882 ..	22,000,978	27 2 8	2,832,759	3 11 3	......	14,543,077
1883 ...	25,266,689	29 9 1	3,265,711	3 18 3	......	13,581,487
1884 ...	28,941,395	32 0 3	3,674,706	4 3 5	......	19,175,725
1885 ...	32,837,540	34 5 7	3,896,145	4 3 8	......	14,219,421
1886 ...	36,603,896	36 10 7	3,766,356	3 16 10	......	12,181,824
1887 ...	38,568,915	36 19 7	1,965,019	1 18 5	......	12,262,623
1888 ...	40,560,222	37 7 1	1,991,307	1 17 5	487,100	13,669,283
1889 ...	42,025,122	37 8 11	1,464,900	1 6 6	901,100	15,182,742

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* When the figures in these columns exceed the amount of loans raised, advances have been made to loan funds from Consolidated Revenue or other funds.

† Includes amount paid in redemption of loans.

Increase of the public debt.

The net increase in the public debt during the ten years, which ended with 1889, was £31,709,030, involving an increase in the annual charge for interest of £1,008,898. During the same period the indebtedness per head advanced from £21 12s. 6d. to £41 11s. 4d., and the charge per head for interest, not including payments in reduction of debt, from 19s. 5d. to £1 10s. 3d.

Advances from surplus revenue.

Owing to the large surplus revenue available during the greater part of the period embraced in the table given above, the amount of public debt was less than the sum actually expended on account of loans, as advances were made in anticipation of loans authorized to be floated in the London market. The advances in some years reached considerable sums. This was noticeable in 1882, when the total of such advances, being the difference between the amount expended and that raised, was not less than £4,615,055. In 1885, however, the balance of surplus revenue available for advances disappeared, and the loans raised have, therefore, since that year exceeded the expenditure chargeable to loan votes. It appears, from the latest Treasury statement, that the balance to the credit of the General Loans Account at the close of 1889 was £2,182,026, and that of the Old Loans was £132,326, making a total of £2,314,352. This, however, includes only £1,500,000 of the £3,500,000 loan raised in July, 1889. These figures may appear inconsistent with those given on page 688, but the reason for the apparent discrepancy will be found in the fact that it is deemed advisable that moneys in the hands of the Government shall be used to meet payments, pending the receipt of the proceeds of loans.

Balance to credit General Loans Account.

Increase of public debt greater than that of population.

Taking the actual expenditure from loan votes as a measure of the increase of the Colony's indebtedness, it will be seen that during the years 1879–89 the total expenditure increased more than 178 per cent., while the population has only increased 58 per cent.—the expenditure per head in 1879 amounting to £21 17s. 4d., while ten years later it had advanced to £37 8s. 11d., a rate of increase averaging 5·52 per cent. per annum. In few countries of the world would this rate of increase be justifiable, but in New

South Wales, whose immense resources are still in a state of partial development, the expenditure gives cause for no uneasiness to the creditors of the Colony. The total expenditure during the last twelve years amounted to £30,413,595, of which £21,993,895 was for railways, £308,603 for telegraphs, and £3,668,042 for water and sewerage, the remaining expenditure, amounting to £4,443,055, was incurred mainly for works and buildings necessary for the development of the resources of the Colony or incidental to its progress.

Cost of public works charged to general revenue.

Public debt, 1869-89.

It has been a practice of long standing to charge the cost of constructing public works, other than those of national importance or built equally for the requirements of the future as of to-day, to the general revenue of the Colony. This practice is rarely departed from, and the amount of loans spent on works which do not come within such definition is comparatively trifling. The subsequent table gives the amount of the public debt at the close of each year since 1869. It will be seen that the increase in the indebtedness for the ten years ending 1879 was small, averaging less than £539,000 per annum; hence it is that, when in the latter years, much greater activity was manifest in the construction of public works, the average increase was at the rate of nearly £3,171,000 per annum, though the mean yearly increase spread over the whole period of twenty years was only £1,855,000 :—

Year.	Public Debt.	Year.	Public Debt.
	£		£
1869	9,546,030	1880	14,903,919
1870	9,681,130	1881	16,924,019
1871	10,614,330	1882	18,721,219
1872	10,773,230	1883	21,632,459
1873	10,842,415	1884	30,101,959
1874	10,516,371	1885	35,564,259
1875	11,470,637	1886	41,034,250
1876	11,759,519	1887	40,995,350
1877	11,724,419	1888	44,100,149
1878	11,688,119	1889	46,646,449
1879	14,937,419		

Provision for extinction of loans.

By the Act 31 Vic., No. 11, provision was made for the gradual extinction of the loan raised under it, so that during the years when no money was borrowed the amount of indebtedness was less than in the previous year, as shown in the foregoing tables. Of the sum in which the Colony stood indebted, £15,429,960 was in debentures, and the balance, £31,216,489, in inscribed and funded stock. The following table gives particulars of loans floated since 1858, and from it may be seen the great improvement which has taken place in the credit of the Colony :—

Loans floated since 1858.

Date of Loan.	Years' Currency.	Amount of Loan.	†Amount raised.	Average rate per cent., less charges.	Nominal Interest per cent.	Real Interest per cent.		
		£	£			£	s.	d.
1858	30	130,400	125,888	90·56	5	5	13	3
1859	30	818,100	816,778	99·09	5	5	1	3
1860	30	560,900	560,654	99·20	5	5	1	0
1861	30	206,960	205,887	98·85	5	5	1	7
1862	30	495,500	485,391	97·22	5	5	3	10
1863	30	610,000	613,247	99·78	5	5	0	3
1864	30	288,300	287,609	99·01	5	5	1	5
1865	30	292,800	269,974	91·49	5	5	11	6
1866	30	1,001,900	899,216	88·49	5	5	16	4
1867	30	312,800	267,448	84·32	5	6	2	1
1868	30	1,500,000	1,430,204	88·52	5	5	16	4
1869	...	1,000,000	981,655	96·85	5	5	4	2
1870 1871	30	985,100	973,696	97·91	5	5	2	11
1872	30	406,800	422,696	103·90	5	4	15	2
1873	*	222,284	217,270	97·74	4	4	2	1
1874	*	282,955	268,808	95·00	4	4	5	11
1875	30	1,000,000	900,581	89·42	4	4	13	0
1876	30	901,500	837,180	92·22	4	4	9	4
1879	30	3,249,500	3,199,443	97·81	4	4	2	8
1881	30	2,050,000	2,120,639	102·23	4	3	17	5
1882	30	2,000,000	2,042,916	100·29	4	3	19	6
1883	50	3,000,000	3,001,067	97·56	4	4	2	4
1883	50	3,000,000	3,018,790	98·09	4	4	1	10
1884	40	5,500,000	5,152,385	91·17	3½	3	18	11
1885	40	5,500,000	5,042,041	89·02	3½	4	1	3
1886	40	5,500,000	5,247,692	91·67	3½	3	18	4
1888	30	3,500,000	3,626,341	102·09	3½	3	8	7
1889	30	3,500,000	3,584,105	100·79	3½	3	9	5

* Interminable. † Gross proceeds, without deduction for charges.

Nominal rates of interest.

The nominal rate of interest paid on the loans of the Colony was 5 per cent. until 1872, and the net amount received per cent., after deducting all charges, varied from 84·32, in 1867, to 103·90, in 1872; the rate of interest in the former case being £6 2s. 1d. per cent., and in the latter £4 15s. 2d. In 1873, the value of New South Wales 5 per cent. loans having risen considerably above par, the new loans were floated at 4 per cent. The highest price obtained for a 4 per cent. loan was £102 4s. 7d. per cent. net, after all charges had been paid, being that received for the loan of 1881. The net interest on this loan amounted to £3 17s. 5d. per cent., the lowest rate at which money was borrowed by the Colony until the loan of 1888 was floated. In 1884 the nominal rate of interest was fixed at 3½ per cent., at which rate loans to the amount of £23,500,000 has been floated. The £3,500,000 loan placed on the market in April, 1888, was the most successful yet floated. The average rate, after all incidental charges were paid, was £102 1s. 10d. A similar loan was floated in July, 1889, realising £100 15s. 9¾d. The 1888 loan carried six months' interest, that of 1889 three months' interest, reducing the former to £100 6s. 10d., and the latter to £99 18s. 3¾d., or a balance in favour of the previous issue of 8s. 6¼d. per cent.

Amount of Loans floated 3½ per cent.

Recent Loans of Australian Colonies.

The following statement shows the terms on which the principal colonies were able to borrow in the London market during the past year, the computations allowing for the repayment of the various loans at par at maturity :—

Loans Floated.	Number of years' currency.	Average Rate per cent. at which sold.			Ex accrued Interest.			Net Interest per cent. to Investors.		
		£	s.	d.	£	s.	d.	£	s.	d.
New South Wales 3½ per cent.	30	102	8	0¾	101	10	6¾	3	8	4
Victoria 3½ per cent.	35	103	5	11½	102	14	10	3	7	7
South Australia 3½ per cent. ...	50	99	19	11½	98	3	10	3	11	6
Tasmania 3½ per cent.	30	98	5	8½	97	13	6	3	12	6
Western Australia 4 per cent...	44	108	15	3	108	1	11	3	12	1

The extent to which the credit of the Colony has advanced in the eyes of the British capitalist since the year 1870 will be seen from the following figures. The first column shows the average interest computed on the nominal amount of loans outstanding at the end of each year under review; the other column shows the interest on the amount actually realised:—

Year.	Average Interest on nominal Amount of Loan.	Interest on Amount actually realised.
870	4·82	5·07
1875	4·87	5·12
1880	4·61	4·84
1885	4·19	4·35
1889	3·93	4·12

The selling price of a loan is not perhaps the most exact test which may be applied to ascertain the credit of a country in the London markets. There are many causes which may combine to influence adversely the price obtained by tender, and it will be evident that in some of the instances given in the table on page 692 the selling price of loans was influenced by circumstances entirely apart from the credit of the colonies concerned. A truer gauge of credit will be found in the selling price and interest yielded to investors by representative stock at a given date. The following table shows the interest returned by the stock of different colonies in June, 1890, due allowance being made in each case for accrued interest, and for repayment of loans at par at

Selling price of Colonial stock.

maturity. Similar figures for the same month of 1868 and 1878 have been added :—

Country.	1868.	1878.	1890.
	£ s. d.	£ s. d.	£ s. d.
Canada	5 12 6	4 9 0	3 6 0
New South Wales	5 0 0	3 16 3	3 8 0
Victoria	4 17 6	4 2 6	3 8 4
New Zealand	5 1 3	4 15 0	3 16 7
Queensland	5 6 3	4 5 0	3 11 6
South Australia	5 2 6	4 2 6	3 13 11
Tasmania	5 8 9	4 12 6	3 13 2
Cape of Good Hope	5 1 3	4 11 3	3 14 0
Natal	5 11 3	4 11 3	3 14 7
Mauritius	5 5 0	4 8 9	3 16 10
India	3 13 9	3 10 6	3 2 9

Improvement of Colonial credit.

The improvement in the credit of all the colonies is obvious, and at the rates given New South Wales could borrow £100 to-day at the same cost as £68 could be obtained twenty-two years previously. In June, 1890, British consols were selling at a rate which would yield £2 11s. 3d. per cent. interest ; Canadian and Indian stock were also selling at slightly better rates than New South Wales. This is certainly anomalous, as there is nothing in the history of these last mentioned countries, or in the nature of their resources, to warrant even the slight preference shown to their stock above that of New South Wales or Victoria.

Inscribed Stock Act of 1883.

The old method of raising loans was superseded by the Inscribed Stock Act of 1883. Under the Act in question the loans of the Colony are negotiated by the Bank of England ; and the expenses of the last four loans are shown in the accompanying table :—

Sales of Inscribed Stock negotiated in London by the Bank of England.

Amount of principal.	Currency, in years.	Date from which interest accrued.	Gross proceeds.	Average rate per cent. at which sold.			Charges.						Net proceeds.
							Brokers' commission.	Bank commission.	Discount on balance of scrip, paid up in full.	Stamp duty.	Petty expenses.	Total.	
£			£	£	s.	d.	£	£	£	£	£	£	£
5,500,000	40	Oct. 1884	5,152,386	93	13	7	13,730	27,500	9,573	34,375	559	85,737	5,066,649
5,500,000	40	Oct. 1885	5,042,041	91	13	5	13,656	27,500	18,391	34,375	780	94,702	4,947,339
5,500,000	40	July 1886	5,247,692	95	8	3	13,713	27,500	14,443	34,375	768	90,799	5,156,893
3,500,000	30	Mch. 1888	3,626,341	103	12	2	8,729	17,500	6,341	21,875	651	55,096	3,571,245
3,500,000	30	June 1889	3,584,105	102	8	0¾	8,667	17,500	9,141	21,875	712	57,895	3,526,210

The charges incidental to the floating of the loans amounted to 1·56, 1·72, 1·65, 1·57, and 1·65 per cent. respectively upon the capital value, but on the gross amount raised the percentage for each loan was 1·66, 1·88, 1·73, 1·52, and 1·61 per cent.

Relation between loans and imports and exports.

The loans raised in England do not come to the Colony as coin, but as merchandise, and form the greater portion of the excess of imports over exports, which is so marked a feature in the trade of these colonies. The following table shows the trade of the Colony for twenty years, and the loan expenditure on public works during each year. Making allowance for the imperfection of the trade returns, the earnings of foreign investments in the Colony, and the expenditure of colonists living abroad, it is evident how close the connection is between the loan expenditure and the excess, or otherwise, of the imports :—

Imports, Exports, and Expenditure from Loans.

Year.	Imports.	Exports.	Excess of Imports.	Excess of Exports.	Loan Expenditure on Public Works.
	£	£	£	£	£
1870	7,757,281	7,990,038	....	232,757	621,913
1871	10,933,508	11,259,909	....	326,401	488,727
1872	9,567,843	10,476,654	....	908,811	422,026
1873	10,959,864	12,618,755	....	1,658,891	272,124
1874	11,645,420	12,398,518	....	753,098	529,411
1875	13,735,133	13,797,397	....	62,264	1,149,153
1876	13,800,505	13,061,412	739,093	....	707,511
1877	14,852,778	13,457,900	1,394,878	....	995,353
1878	15,104,645	13,134,405	1,970,240	....	815,268
1879	14,503,826	13,131,931	1,371,895	....	1,271,705
1880	14,176,063	15,682,802	....	1,506,739	1,668,638
1881	17,587,012	16,307,805	1,279,207	....	2,397,368
1882	21,467,899	17,677,355	3,790,544	....	2,832,759
1883	21,522,841	20,262,273	1,260,568	....	3,265,711
1884	23,160,916	18,577,290	4,583,626	....	3,674,706
1885	23,737,461	16,750,107	6,987,354	....	3,896,145
1886	21,313,127	15,717,937	5,595,190	....	3,766,356
1887	19,171,317	18,521,750	649,567	....	1,965,019
1888	21,229,277	20,920,130	309,147	....	1,991,307
1889	22,863,057	23,294,934	....	431,877	1,464,900

The expenditure of loan money on public works, from the beginning of 1870 to the close of 1889, was £34,196,099, and the amount of interest paid on the public debt during that period was approximately £17,841,596, leaving the net amount of British capital imported into the Colony at £16,354,503. The excess of imports during the series of years covered by the foregoing table amounts to £24,050,471, or £7,695,968 more than the net proceeds of the loans which reached New South Wales. This excess is spread over twenty years, and equals about £385,000 per annum. The sum last mentioned represents the difference between the amount of British capital sent to the Colony for private investment, and the earnings of such capital invested in the country. From the circumstances of the case it is impossible to make an exact estimate of the amount of British and other capital which is sent to this country for investment, but data are not wanting from which a somewhat close approximation may be made for each of the past six years. It will be seen from the following statement that the flow of money from abroad for investment in New South Wales has greatly reduced since 1885. The very large excess of imports over exports which has marked the operations of the neighbouring Colony of Victoria would warrant the assumption that the investment of foreign capital in Australia still continues, but that for the present its course has been diverted from New South Wales to Victoria. In the following table the investments of private persons are alone considered; the expenditure of the State from external loans will be found elsewhere:—

Investments of British and other Capital in New South Wales.

Year.	Amount.	Year.	Amount.
	£		£
1884	4,280,000	1887	3,050,000
1885	6,800,000	1888	3,260,000
1886	6,030,000	1889	1,460,000

PUBLIC WEALTH.

Valuation of public and private wealth.

At the beginning of the year 1890 the estimated value of the public and private wealth of the Colony was £581,331,000, or about £518 per head of population. The public and municipal estate is valued at £177,731,000, or about £158 per head, while the personal and private wealth of the Colony amounts to £403,600,000, or £360 per head. The public wealth of New South Wales consists of railways, telegraphs, public works, unsold lands, the latter mostly leased to pastoralists, and yielding revenue in the shape of rent. The value of each class was:—

	£
Railways, tramways, telegraphs, and other revenue yielding works	43,500,000
Public works and buildings, not yielding revenue, or only indirectly	18,500,000
Unsold Crown lands, and balances due on lands sold conditionally	110,000,000
Total value of public property or estate	£172,000,000
Municipal Property—Roads, buildings, and other works constructed by Municipalities	5,731,000
Total public wealth	£177,731,000

Estimated value of public works

The present value of the Government railways and tramways of the Colony has been taken at the moderate estimate of £38,500,000, the expenditure on construction alone, to the end of 1889 having been about £31,200,000. The balance of the amount represents the value of Crown lands used for railways, and not specially paid for, and the increased value of railway property during the thirty-four years which have elapsed since the lines were first opened for traffic. The present value of roads and bridges formed chiefly out of general revenue has been taken at £9,000,000, which is the estimate of the Engineer-in-Chief for Roads and Bridges. Harbour works, including wharves and dredging plant, are valued at £3,670,000, public buildings and other works £5,870,000, telegraphs £725,000, water supply and sewerage £4,235,000, making the total value of public works, whether constructed from loans or revenue, £62,000,000.

Estimated value of the public estate.

The value of the public estate appears in the estimate given in previous table as £110,000,000. Of this sum £12,307,000 represents the amount due to the Crown by conditional purchasers, while the remainder, £97,693,000, is the value of the unsold estate. The total area unalienated at the commencement of the year 1890 was 152,282,000 acres, and of this nearly 137,699,000 acres were leased at a rental of £764,800, the remaining portion of 14,583,000 acres represents some of the best land in the Colony. The value set down for the unsold Crown lands, otherwise than those leased for mining, is about 12s. 10d. per acre, which is certainly by no means extravagant.

Estimated value of municipal works.

The value of municipal works is £5,731,000, this, with the sums already given, making the total value of public and municipal property about £177,731,000. Against the wealth, however, must be set the amount of the public debt, £46,646,449, and that of the municipalities £1,634,013 in all, £48,280,462 or 27 per cent. of the total, thus leaving a surplus of about £129,500,000 on the public estate alone, without considering the value of private property.

PRIVATE WEALTH.

Private property in the Colony is estimated at the value of £403,600,000, comprised as follows :—

Land	£178,500,000
Houses, and permanent improvements	132,600,000
Live stock	33,000,000
Personal property, including household furniture	20,000,000
Machinery and implements of trade	7,065,000
Coin and bullion	9,035,000
Merchandise	21,500,000
Shipping owned in the Colony	1,900,000
	£403,600,000

Large amount of private wealth.

The total given above is certainly very large, but may be roughly verified by taking the amount of money left by persons dying during the past five years. Thus the total amount sworn to of property claimed under probate and letters of administration during this period was £23,164,796. The number of deaths during the same period was 72,554, so that the average value of the property left by each person dying was about £319. It is well known that property for probate purposes is not estimated at its full value; assuming the real value is 10 per cent. above the probate, the total wealth of the Colony, as estimated by this means, on the population of 1889, would be £394,000,000, and if to this the increment of the past few years be added the total will approach very closely to the sum above given.

Lands and buildings within municipal boundaries.

The value of all lands and buildings assessed for municipal purposes is £127,212,046, the annual value being £7,792,350, or 6·12 per cent. on the nominal capital value. It is well understood, however, that the capital value of unimproved lands is generally greatly understated for municipal purposes, and the annual value per cent. of all property is, in reality, not so high as given above; nevertheless, for the purpose of the foregoing estimate, the value of property within municipalities is taken as substantially the same as that returned by the municipal authorities.

Land outside municipalities.

The area of land outside municipalities, which is in private hands, amounts to about 42,215,200 acres. On this area the number of houses was, in 1889, about 100,000, valued at £11,500,000, while the value of the land itself was £104,614,000—exclusive of the amount owing by selectors on their conditional purchases. In making this estimate the lands of the Colony have been classified into various grades having regard to their situation and capability of production, and valued accordingly. The mineral lands are worth, at a moderate computation, £15,000,000. The permanent improvements effected in the purchased lands of the Colony and on the holdings of pastoral tenants have been valued by the Inspector of Stock at £66,354,000. For the purpose of this estimate the value has been taken at £49,600,000, or 75 per cent. of Mr. Bruce's figures. The determination of an exact value for any of the items which comprise the estimate just given is, of course, impossible; but it is believed that the sums named fairly represents the value of the property against which they stand.

Personal property and furniture.

The estimated value of personal property and furniture is set down at £20,000,000, which is not more than 25 per cent. of the value of the houses; this may, perhaps, be considered too low when it is borne in mind that it is usual in England to estimate the value of furniture alone at half the value of the houses furnished.

Merchandise.

Merchandise represents the value of the goods and stocks of all kinds, whether in store or shops, or at the place of production, and averages in value half the imports and exports taken together.

The following is a summary of the total value as well as of the value per head of population:—

	Total.	Value per head.
	£	£
Public wealth	177,731,000	158
Private wealth	403,600,000	360
Total wealth	581,331,000	518

Increase in value of estates of deceased persons.

The value of the estates in which wills were proved in the Colony, or for which letters of administration were granted, has increased very rapidly; but, unfortunately, the records are not perfect prior to the year 1881:—

Value of Property for which Probate or Letters of Administration were granted.

Year.	No. of Probates and administrations—will annexed.	Amount sworn to. £	No. of Letters of Administration.	Amount sworn to. £	Total No. of Estates.	Total Amount sworn to. £
1881	671	2,011,305	526	307,818	1,197	2,319,123
1882	810	3,586,554	589	581,528	1,399	4,168,082
1883	862	3,528,602	613	588,029	1,475	4,116,631
1884	933	3,642,709	648	605,543	1,581	4,248,252
1885	961	3,721,805	659	601,542	1,620	4,323,347
1886	1,026	4,726,918	706	768,628	1,732	5,495,546
1887	961	3,621,874	665	641,426	1,626	4,263,300
1888	998	3,652,963	667	638,295	1,665	4,291,258
1889	1,115	4,317,734	682	473,611	1,797	4,791,345

Average value of estates.

Two things are plainly noticeable from this table, especially if it be viewed in connection with the subsequent one, viz.,—that the proportionate number of persons leaving property shows a general tendency to increase faster than the population, whilst the average value of estates is also increasing. As regards the latter, the figures are somewhat irregular owing to the occurrence at irregular intervals of the deaths of very wealthy men, which amongst so comparatively few deaths considerably affect the average.

Value of Property left by Persons Deceased.

Year.	Number of Wills proved or administrations granted.	Number of deaths.	Percentage of Persons who left property.	Average value of Estates left by persons with property.
				£
1866	426	7,361	5·08	1,487
1867	387	8,631	4·48	1,782
1868	437	7,225	6·05	1,412
1869	462	6,691	6·90	1,513
1870	428	6,558	6·53	1,451
1871	475	6,407	7·41	1,283
1872	522	7,468	6·99	1,280
1873	637	7,611	8·37	1,398
1874	685	8,652	7·92	1,776
1875	908	10,771	8·43	*
1876	926	11,193	8·27	*
1877	1,001	9,869	10·14	*
1878	1,087	10,763	10·10	*
1879	1,051	10,200	10·30	*
1880	1,173	11,231	10·44	*
1881	1,197	11,536	10·38	1,938
1882	1,399	12,816	10·92	2,979
1883	1,475	12,249	12·04	2,791
1884	1,581	14,220	12·94	2,687
1885	1,620	15,282	10·60	2,669
1886	1,732	14,587	11·87	3,173
1887	1,626	13,448	12·09	2,683
1888	1,665	14,408	11·56	2,577
1889	1,797	14,829	12·12	2,666

* Cannot be accurately given, probate duties not in force.

Probates an index of wealth.

As already pointed out, the amount of property sworn to, for the purpose of obtaining letters of administration or probate is not an index to the total wealth of the community, except in those years when stamp duties were levied. On the 20th June, 1865, these duties were imposed, and remained in force until the end of 1874; they remained in abeyance until June 25th, 1880, when they were again imposed. Sufficient time has, however, elapsed between the date first mentioned and the close of 1889 to enable a comparative view to be taken of the progress of the Colony. During the five years, 1870 to 1874, there died 36,696 persons, and the property left by them amounted to £4,005,333, so that the average per head was only £109, and the total private wealth averaged £58,424,000. For the period 1885 to 1889 the number of deaths occurring was 72,554, and the property left by those who died was valued at £23,164,796, giving an average of £319 per head, so that the average wealth for the whole population was £332,445,850 for the five years named. The increase of wealth, as shown by the returns quoted, amounted to £274,021,850 during the fifteen years which elapsed from 1870–74 to 1885–89, a rate equivalent to 12·29 per cent. per annum, while the population advanced only at the rate of 4·53 per cent. Such progress in the accumulation of wealth is beyond all precedent, and is so extraordinary as to raise suspicion as to the correctness of the figures upon which the deduction is built. The figures, however, relating to the value of property left by persons who died may be taken as correct, and the somewhat similar progress experienced in Victoria would warrant the supposition that the conclusion as to the rate at which wealth has accumulated is also correct; nevertheless the figures are given with diffidence and should be used with caution. For purposes of comparison with the neighbouring colony, the period from 1870 to 1889 has been selected for New South Wales, and 1870 to 1888 for Victoria, no later returns being available for the latter colony. In regard to New South Wales, the defect which has already been adverted to mars the full value of the table; from 1875 to 1880 probate duties were not in force, and it is surmised that in some, at least, of the years belonging to this period the personal estates only of persons who died were valued for purposes of probate. However, this may be; the table will illustrate what is intended, viz., the vast growth of the wealth both of the community as a whole and of the individuals of which it is composed.

Extraordinary increase of wealth.

New South Wales and Victoria compared.

Years.	New South Wales.			Victoria.		
	Average Amount left by each person dying.	Average Number of persons living.	Approximate Total Wealth of Population.	Average Amount left by each person dying.	Average Number of persons living.	Approximate Total Wealth of Population.
	£		£	£		£
1870–74	109	536,000	58,424,000	146	757,650	110,616,900
1875–79	178	646,700	115,112,600	211	815,300	172,028,300
1880–84	264	818,600	216,110,400	268	901,650	241,642,200
1885–89	319	1,042,150	332,445,850	*342	1,025,300	350,652,600

* 1885 to 1888.

The following table shows the number and value of estates on which stamp duties were paid during the years 1887–89 :—

Estates.	1887.		1888.		1889.	
	Number.	Value.	Number.	Value.	Number.	Value.
	£	£	£	£	£	£
Under the value of £5,000	1,513	1,095,260	1,503	1,092,885	1,572	1,141,865
,, ,, £12,500	59	487,160	71	578,055	76	616,940
,, ,, £25,000	25	444,605	33	632,685	21	373,985
,, ,, £50,000	10	362,035	18	627,260	16	588,765
Over ,, £50,000	13	1,280,765	12	1,380,550	15	1,566,340
Total	1,620	3,669,825	1,637	4,311,435	1,700	4,287,895

It will be seen that during the year 1889 stamp duties were paid in 1,700 estates, to the value of £4,287,895, being an average of £2,522 for each estate. The total number of persons who died during the year was 14,829, or at the rate of 13·43 to every 1,000 of the mean population. Presuming that wealth is distributed among the living in the same proportion as it was among those on whose estates stamp duties were paid in relation to the total number of the dead, there would have been, at the end of 1889, 117,051 persons with estates under £5,000, 5,652 with property between £5,000 and £12,500, 1,563 who were worth £12,500 to £25,000, 1,191 whose wealth was between £25,000 and £50,000, and 1,117 who enjoyed estates valued at over 50,000. This would leave about 996,000 people whose effects were, so to speak, of little or no value, consisting mainly of personal property—chiefly furniture—which is rarely made the subject of formal bequest. The property of the Colony may be said to have accumulated into the hands of one-eighth of the population, which, restricted as it must be deemed, is a considerably wider distribution than is found in older countries.

INCOME.

Total income.

The income of persons living or holding property in New South Wales was estimated in 1889–90 to be £62,950,000, or at the rate of £57 per head of mean population. The income is derived from the following sources:—

	£
Pastoral pursuits	13,400,000
Dairy farming	1,400,000
Agricultural and forestry	5,650,000
Mining	4,450,000
Manufacturing pursuits	5,700,000
Professional	2,700,000
Commercial, trade, &c.	8,000,000
Distribution of food and drink and domestic pursuits	4,680,000
Construction	5,870,000
Transport	1,800,000
State employés	1,620,000
Rents derived from houses and land not used for agriculture, pastoral, or mining	6,120,000
Miscellaneous pursuits	1,560,000
Total	£62,950,000

Productive pursuits.

The earnings derived from what are usually termed productive pursuits—pastoral, dairy farming, agriculture, mining, and manufactures—amount to £30,600,000, or 48·6 per cent. of the total earnings of the community. The income of the wage-earners, including females, amounts to £28,550,000, distributed approximately as follows:—

Income of Wage-earners.	£
Pastoral and farming	7,720,000
Mines and quarries	3,200,000
Works and manufactories	4,600,000
Transport	1,900,000
Attendance and food distribution	3,530,000
Mechanics and unskilled labourers	5,490,000
Miscellaneous	2,110,000
Total	£28,550,000

The above estimate represents the income of 385,000 persons, of whom 319,000 were males and 66,000 females. The earnings of the former were £25,730,000 and of the latter £2,820,000, the average per head being £80 13s. 2d. and £42 14s. 7d. respectively. The income derived by persons residing abroad who hold property, or have investments in this country, is at present more a matter of speculation than of exact computation. The amount of such income is undoubtedly large, as there has been for many years a constant influx of capital, chiefly from Great Britain and Victoria, for investment in New South Wales. The earnings of this capital now reaches a considerable sum, and there is ample evidence to warrant the supposition that the income of non-residents amounts to not less than £3,500,000 per year.

Income of various countries.

Compared with the older countries the income stated in the foregoing table to be enjoyed by persons living in New South Wales will appear very considerable, but not more so than the high rate of wages and the natural wealth of the Colony would lead one to expect. The following table, extracted from Mulhall's Dictionary of Statistics, gives the rate for the principal countries of Europe and for the United States and Canada :—

Income per Head of Population in Various Countries.

Country.	Total Income.	Income per head.
	Million £	£
United Kingdom	1,247	35·0
England	1,048	41·0
Scotland	121	32·0
Ireland	78	16·0
France	965	25·7
Germany	850	18·7
Russia	848	9·9
Austria	602	16·3
Italy	345	12·0
Spain	218	13·8
Portugal	61	13·6
Belgium	120	22·1
Holland	104	26·0
Denmark	47	23·2
Sweden and Norway	104	16·2
Switzerland	44	16·0
Greece	23	11·8
United States	1,420	27·2
Canada	118	26·9
New South Wales	54	57·0

CURRENCY.

Coins of United Kingdom current.

The coins circulating in Australasia are those of the United Kingdom. Gold is the standard, the silver and copper currency are more properly tokens than coins. Gold coins are legal tender

Standard weight of coins.

to any amount, silver for an amount not exceeding forty shillings, and bronze for one shilling. The standard weight and fineness of each coin are given below. The least current weight of a sovereign is 122·5 Imperial grains, and of a half-sovereign 61·125 grains :—

Coins in circulation.

Denomination of Coin.		Standard Weight.	Standard Fineness.
		Imperial grains.	
Gold	Sovereign	123·27447	Eleven-twelfths fine gold, one-twelfth alloy, or decimal fineness ·91666.
	Half-sovereign	61·63723	
Silver	Crown	436·36363	Thirty-seven-fortieths fine silver, three-fortieths alloy, or decimal fineness ·925.
	Double Florin	349·09090	
	Half-crown	218·18181	
	Florin	174·54545	
	Shilling	87·27272	
	Sixpence	43·63636	
	Threepence	21·81818	
Bronze	Penny	145·83333	Mixed metal, copper, tin, and zinc.
	Halfpenny	87·50000	

Weight of gold minted.

Gold coins are the only ones struck at the Sydney Mint, though silver and bronze of English coinage are also issued. The weight of gold sent for coinage from the first opening of the Mint on the 14th May, 1855, to the end of 1889, was 17,113,910 oz., valued at £64,576,152; of this quantity New South Wales produced only 7,296,781 oz., of the value of £27,805,849, the amount from each colony being :—

Gold received for Coinage at the Sydney Mint.

Colony where gold was produced.	Weight.	Value.
	oz.	£
New South Wales	7,296,781	27,805,849
Queensland	5,945,229	21,296,682
New Zealand	2,121,361	8,380,096
Victoria	1,440,969	5,916,955
Tasmania	11,805	44,817
South Australia	54,063	194,157
Other countries	16,726	57,664
Old coin	226,976	879,932
Total	17,113,910	64,576,152

New South Wales and Queensland gold coined at Sydney.

The greater part of the gold won in New South Wales an Queensland, and also part of the produce of New Zealand an South Australia, comes to Sydney for coinage; but by far th larger portion of the gold of the colonies last-mentioned, as we as of the other colonies of the group, goes to Melbourne. Th total value of gold raised in Australasia excluding Wester Australia to the end of 1888 amounted to £328,274,845, 18·6 per cent. of which passed through the Mint of this Colony. Th value of gold coin and bullion issued up to the end of 1889, wa £64,451,568 of which £61,718,000 worth of gold was converte into coin, the value of sovereigns and half-sovereigns being:—

Gold Coin issued by the Sydney Mint.

Year.	Sovereigns.	Half-sovereigns.	Total.
	£	£	£
1855 to 1877	39,248,500	1,963,500	41,212,000
1878	1,259,000	63,000	1,322,000
1879	1,366,000	47,000	1,413,000
1880	1,459,000	40,000	1,499,000
1881	1,360,000	31,000	1,391,000
1882	1,298,000	26,000	1,324,000
1883	1,108,000	110,000	1,218,000
1884	1,595,000	....	1,595,000
1885	1,486,000	....	1,486,000
1886	1,667,000	41,000	1,708,000
1887	2,002,000	67,000	2,069,000
1888	2,187,000	....	2,187,000
1889	3,262,000	32,000	3,294,000
Total	59,297,500	2,420,500	61,718,000

Bronze and silver coin issued by Mint.

Bronze coin was first issued from the Mint in 1868, and silver coin in 1879. The respective value of each to the close of the year 1889 being:—Bronze, £32,560; silver, £361,175. Th amount of each particular currency issued in each year is shown i the following table:—

Sydney Mint—Silver and Bronze coin issued.

Year.	Silver Coin.						Bronze Coin.
	Half-crowns.	Florins.	Shillings.	Six-pences.	Three-pences.	Total.	
	£	£	£	£	£	£	£
1868 to 1875	......	......	......	......	......	......	15,185
1876	......	......	......	......	......	......	1,045
1877	......	......	......	......	......	......	770
1878	......	......	......	......	......	......	735
1879	17,000	15,972	12,000	3,681	4,647	53,300	910
1880	11,300	6,428	11,900	2,219	3,153	35,000	545
1881	14,600	10,600	12,000	3,600	2,700	43,500	710
1882	12,100	11,300	13,800	1,300	4,000	42,500	1,950
1883	11,200	9,300	13,000	2,400	3,700	39,600	1,375
1884	15,000	11,800	11,300	4,300	3,800	46,200	1,765
1885	11,100	7,200	12,450	5,550	7,600	43,900	2,485
1886	2,600	200	5,500	1,450	7,650	17,400	1,095
1887	2,375	700	1,850	500	690	6,115	800
1888	1,425	900	3,250	3,100	2,610	11,285	1,630
1889	*7,800	†4,000	3,900	2,700	3,975	22,375	1,560
Total... £	106,500	78,400	100,950	30,800	44,525	361,175	32,560

* Includes £500 in Crowns. † Includes £500 double florins.

Silver coin withdrawn.

The amount of silver coin withdrawn from circulation from 1873, when the Mint first received worn coin, until 1889, was of the nominal value of £115,124. The actual weight after smelting was 364,261 oz., and the corresponding weight of new coinage would be 418,633 oz. The loss while the coins were in circulation was therefore 54,372 oz., the average loss being 12·98 per cent.

Coin held by banks.

The amount of coin held by the banks, and in circulation, was larger during 1889 than in any previous year, though, as compared with the population, the total has not varied greatly for some years, as will be seen from the following table :—

Coin in Circulation and in Banks, with Average per Head of Population at close of year.

Year.	Coin in Banks	Average. per head.	Coin in private hands.	Average. per head.	Total in Banks and in private hands.	Average. per head.
	£	£ s. d.	£	£ s. d.	£	£ s. d.
1870	1,352,842	2 15 2	1,960,344	4 0 0	3,313,186	6 15 1
1871	2,413,144	4 15 0	2,004,036	3 18 10	4,417,180	8 13 11
1872	2,693,154	5 2 4	2,075,546	3 18 7	4,768,700	9 0 10
1873	1,970,075	3 12 5	2,191,794	4 0 6	4,161,869	7 12 12
1874	2,283,353	4 1 0	2,279,316	4 0 10	4,562,669	8 1 10
1875	2,525,698	4 6 5	2,179,326	3 14 7	4,705,024	8 1 0
1876	2,732,104	4 10 5	2,191,945	3 12 7	4,924,049	8 3 0
1877	2,435,126	3 17 5	2,394,750	3 16 2	4,829,876	7 13 7
1878	2,227,115	3 1 10	2,566,831	3 12 0	4,593,946	6 13 10
1879	3,102,345	4 9 10	2,417,377	3 10 0	5,519,722	7 19 10
1880	3,637,568	5 0 3	2,605,370	3 11 9	6,242,938	8 12 0
1881	2,885,890	3 16 0	3,104,397	4 1 7	5,990,287	7 17 7
1882	2,672,799	3 7 2	3,128,415	3 18 9	5,801,214	7 5 11
1883	2,861,980	3 12 7	2,989,137	3 11 7	5,851,117	7 4 2
1884	3,863,873	4 7 10	2,988,744	3 7 9	6,852,617	7 15 7
1885	4,069,840	4 7 5	3,250,082	3 9 9	7,319,922	7 17 2
1886	4,439,742	4 8 7	3,361,904	3 7 1	7,801,646	7 15 8
1887	5,108,996	4 18 0	3,745,980	3 11 10	8,854,976	8 9 10
1888	5,061,000	4 13 3	3,936,000	3 12 6	8,997,000	8 5 9
1889	5,161,011	4 12 0	3,874,058	3 9 1	9,035,069	8 1 1

Stock of gold and silver.

The stock of gold and silver in private hands, in relation to the population, showed a slight decrease during 1889 compared with the previous year; there is evidently a tendency to reduce the quantity of coin needed for the ordinary business of exchange. The spread of the banking system is generally attended with a diminution of

Amount currency

the amount of coin required for the use of business, and the decrease in the supply of coin per head points to the extension of banking facilities. The quantity of coin in the colony both reserved in banks and in circulation amounts to about £8 1s. 1d. per head, a larger sum than in any other country. The nearest approach is France with £8; if, however, a comparison be made of the quantity of currency, apart from bank reserves, but including paper money, New South Wales is exceeded by France, Belgium, the Netherlands, and the United States. The following table shows the total amount of circulation and the average per inhabitant in some of the principal countries. The extraordinary variations in the requirements arise from the diverse modes of transacting business which obtain, and the poverty of some of the countries enumerated :—

Amount of Coin and Paper circulation of various countries.

Country.	Amount of Circulation.	Amount per inhabitant.		
	£	£	s.	d.
Argentine Republic	11,740,500	3	19	9
Austro-Hungary	68,483,500	1	16	1
Belgium	34,565,500	6	2	2
Brazil	28,720,000	2	8	7
Canada	10,366,500	2	5	11
Chili	6,192,500	2	14	5
Denmark	5,166,000	2	9	3
France	326,083,000	8	13	1
Germany	132,190,500	2	18	5
Great Britain and Ireland	148,282,500	4	4	1
Greece	5,615,000	2	16	8
India	209,656,500	0	16	5
Italy	95,316,500	3	6	11
Japan	45,227,500	1	4	7
Mexico	10,325,500	1	0	1
Netherlands	22,327,500	5	6	4
Portugal	7,115,000	1	10	2
Russia	107,274,000	1	1	4
Spain	50,018,500	2	19	3
Scandinavia	6,225,500	0	19	5
Switzerland	8,536,500	2	19	11
Turkey	14,126,500	0	13	0
United States	248,849,000	4	18	11
Australia, New South Wales	5,460,000	4	17	3

BANKING.

Capital and profits of banks.

The nominal capital of banks trading in New South Wales is £13,951,788, but much of this capital is not exclusively used in the Colony. It has been found impossible to determine the proportion of the whole capital required for the business of the Colony; the figures relating to capital in the ensuing tables, therefore, refer to the nominal capital paid up. The income derived by the banks during 1889 amounted to £1,693,660, or at an average rate of about 12⅛ per cent. per annum, the rates varying from 6 to 25 per cent. The capital and profits of banks operating in this Colony during 1889 will be found below:—

Banks operating in New South Wales.	Capital paid up.	Rate per Annum of last Dividend.	Amount of Reserved Profits.
	£	℔ cent.	£
New South Wales	1,250,000	17½	940,000
Commercial	600,000	25	795,256
Australasia	1,600,000	14	814,163
Union of Australia	1,500,000	14	1,115,682
Australian Joint Stock	*671,757	15	403,673
London Chartered of Australia	1,000,000	8	290,029
English, Scottish, and Australian Chartered	†900,000	10	330,509
Commercial of Australia	1,000,000	15	711,153
City	280,000	12½	177,330
Mercantile of Sydney	§266,561	9	9,332
Federal of Australia	400,000	9	128,378
Queensland National	800,000	12	482,537
New Zealand	1,125,000	7	96,348
National of Australasia	1,000,000	15	697,202
New Oriental	583,470	6	192,928
South Australia	800,000	6	129,343
North Queensland	175,000	......	114
Totals	13,951,788	......	7,313,968

* Capital £500,000 at commencement of year. † Capital £720,000 during first half year. § Capital £300,000 at commencement of year.

Magnitude of banking operations

The magnitude of the operations of the banking institutions of the Colony may be gathered from the subsequent tables. In the year 1872 the total assets amounted to £13,094,187, while the liabilities were £9,672,266, showing a surplus of £3,421,921, while in 1889 the assets had amounted to £48,914,994, and the

Increase of resources of banks.

liabilities to £34,593,165, the surplus being £14,321,829. During the eighteen years covered by the table the population of the Colony was more than doubled, while the resources of the banks were increased four times.

Assets and Liabilities of Banks.

Year.	Assets.	Liabilities.	Surplus Assets.
	£	£	£
1872	13,094,187	9,672,266	3,421,921
1873	14,263,574	10,956,813	3,306,761
1874	16,276,956	12,600,906	3,676,050
1875	18,318,311	14,499,398	3,818,913
1876	19,982,588	16,043,694	3,938,894
1877	21,631,694	17,464,564	4,167,130
1878	22,853,362	18,047,430	4,805,932
1879	23,734,837	18,568,426	5,100,411
1880	24,398,813	19,335,229	5,063,584
1881	26,481,987	21,426,126	5,055,861
1882	30,624,731	24,393,750	6,230,981
1883	32,580,005	25,828,248	6,751,757
1884	35,261,346	27,480,291	7,781,055
1885	37,815,576	29,845,622	7,969,954
1886	39,805,308	30,378,358	9,426,950
1887	42,268,720	31,831,499	10,437,221
1888	44,971,057	33,035,061	11,935,996
1889	48,914,994	34,593,165	14,321,829

Assets compared with liabilities.

The total assets of all banks trading in Australasia at the close of 1889 amounted to £163,913,199, against which there were liabilities to the extent of £112,810,466, so that the surplus provided by the banks out of their own resources was £51,102,733. The Colony showing the largest figures is Victoria, after which comes New South Wales. As regards the last named Colony the amounts shown in the following table differ from those of the preceding one, which were not the assets, &c., at the close of the year as now given, but the average of the whole year:—

Assets and liabilities of Banks in Australasian Colonies for the last quarter of 1889.

Colony.	Assets.	Liabilities.	Excess of Assets.
	£	£	£
New South Wales	50,152,350	35,671,791	14,480,559
Victoria	57,625,653	40,810,770	16,814,883
Queensland	20,670,618	10,966,144	9,704,474
South Australia	11,189,194	7,368,528	3,820,666
New Zealand	17,754,413	12,562,358	5,192,055
Tasmania	4,787,072	4,532,895	254,177
Western Australia	1,733,899	897,980	835,919
Total..................	163,913,199	112,810,466	51,102,733

Bank returns no gauge of stability.

The figures just given must be taken with qualifications since the returns for any individual colony do not indicate the stability or otherwise of the banks, as most institutions have branches in the adjoining colonies and in London, and a bank may show, as did the late Oriental Bank Corporation, a large surplus of assets over liabilities in New South Wales and yet be on the brink of insolvency by reason of its operations elsewhere.

Bank deposits.

The amount of money deposited in the various banks of the Colony since 1872 will be found herewith, a distinction between deposits bearing interest and at call being made from 1876. The most striking feature of the table is the rapid advance of interest bearing deposits, which, in 1889, had reached the large sum of £22,925,549, whereas the amount in 1880 was only £12,209,781. The deposits at call amounted to £9,830,056 in 1889, as against £5,683,870 in 1880.

Average Amount of Deposits with Banks of Issue.

Year.	Deposits not bearing Interest.	Deposits bearing Interest.	Total Deposits.
	£	£	£
1872	*	*	8,653,481
1873	*	*	9,760,661
1874	*	*	11,369,184
1875	*	*	13,132,772
1876	5,146,536	9,563,608	14,710,144
1877	5,061,231	10,984,264	16,045,495
1878	4,933,643	11,678,843	16,612,486
1879	4,898,724	12,352,454	17,251,178
1880	5,683,870	12,209,781	17,893,651
1881	7,719,236	11,869,979	19,589,215
1882	8,310,054	13,772,826	22,082,880
1883	7,158,975	16,302,407	23,461,382
1884	7,453,914	17,738,445	25,192,359
1885	8,819,979	18,387,705	27,207,684
1886	8,355,255	18,974,984	27,330,239
1887	8,870,037	20,162,493	29,032,530
1888	10,436,559	20,382,990	30,819,549
1889	9,830,056	22,925,549	32,755,605

* Not distinguished.

Bank deposits of Australasia.

There were deposited during the last quarter of 1889 £106,292,878 with the various banks trading in Australasia; of the sum named, £73,522,516—not including deposits in Tasmania—bore interest. The banks of Victoria hold £38,768,936 or 36·5 per cent. of the total deposits; those of New South Wales,

£33,777,143, or 31·7 per cent. The large business of the Victorian banks, as compared with those of New South Wales, in this and other respects, is probably due to the extensive interests which capitalists of that Colony have long held in the Southern and Western districts of New South Wales. The figures are for the last quarter and not the average of the year as shown in the previous table :—

Total Deposits with Banks of Issue during last quarter of 1889.

Colony.	Deposits bearing Interest.	Deposits not bearing Interest.	Total Deposits.
	£	£	£
New South Wales	23,951,948	9,825,195	33,777,143
Victoria	28,654,782	10,114,154	38,768,936
Queensland	7,025,862	3,156,526	10,182,388
South Australia	4,990,183	1,832,319	6,822,502
New Zealand	8,432,241	3,162,363	11,594,604
Tasmania	....	....	4,309,610
Western Australia	467,500	370,195	837,695
Total ....£	*73,522,516	*28,460,752	106,292,878

* Tasmania not included.

Reserves compared with liabilities.

The proportion of coin and bullion which banking institutions must habitually keep in stock is not fixed by any enactment. Compared with the total liabilities, and with deposits at call and note circulation, the quantity of coin has varied very considerably from year to year, as the following statement shows. The largest per centage was held in 1876, and the least in 1883 :—

Yearly Average Coin and Bullion in Banks, compared with Liabilities, and with deposits at call and circulation.

Year.	Per cent. of Liabilities to Reserves.	Per cent. of deposit at call and note circulation.
1876	18·2	46·5
1877	15·3	42·9
1878	13·0	38·2
1879	13·8	42·4
1880	17·8	49·9
1881	17·1	40·1
1882	12·7	31·0
1883	11·1	32·3
1884	13·2	39·5
1885	14·2	40·0
1886	13·2	40·1
1887	15·5	47·2
1888	16·7	45·6
1889	14·6	44·4

Average value of coin reserved

The quantity of coin in the colony at the close of 1889 has already been stated as £9,035,069, or £8 1s. 1d. per head. Of this amount £5,161,011 was in the hands of the banks, and £3,874,058 in circulation. The value of coin and bullion in banks of issue, at the end of the year, was somewhat in excess of the average amount for the year. The following figures are for the period which has elapsed since 1871 :—

Average yearly value of Coin and Bullion in Banks of Issue.

Year.	Coin.	Bullion.	Total.
	£	£	£
1871	1,867,278	184,553	2,051,831
1872	2,859,325	126,201	2,985,526
1873	1,972,092	76,483	2,048,575
1874	2,322,269	192,254	2,514,523
1875	2,476,456	112,319	2,588,775
1876	2,828,503	87,063	2,915,566
1877	2,586,053	84,415	2,670,468
1878	2,262,526	86,194	2,348,720
1879	2,488,175	83,824	2,571,999
1880	3,373,618	73,651	3,447,269
1881	3,594,914	80,068	3,674,982
1882	3,022,159	74,308	3,096,467
1883	2,798,536	80,018	2,878,554
1884	3,559,859	61,223	3,621,082
1885	4,171,043	62,066	4,233,109
1886	3,958,238	66,243	4,024,481
1887	4,870,315	65,187	4,935,502
1888	5,461,393	59,608	5,521,001
1889	4,997,629	70,528	5,068,157

Reserves comparatively heavy.

Compared with the total amount of currency, the reserves held by Australasian Banks are proportionately heavier than those of any other country. In New South Wales the bank reserve equals the whole of the active circulation both of coin and paper; much the same conditions exist in the neighbouring colonies. The only European country approaching this proportion, is the Netherlands, where the bank reserves equal about one half the active currency of the country. The following statement shows the quantity of coin in Banking Institutions and the Public Treasury, as well as the total value of the currency, both active and reserved, of some of the leading countries of the world:—

Amount of Coin in Banks and total Currency of all kinds in Principal Countries.

Countries.	Coin etc., in Banks and Treasury.	Total amount of currency.
Australasia—	£	£
New South Wales	5,068,000	10,520,000
Victoria	6,533,000	....
South Australia	1,591,400	....
Queensland	2,191,900	....
Tasmania	578,800	....
New Zealand	2,275,200	....
Western Australia	283,071	....
Argentine Republic	2,910,274	14,631,000
Austro-Hungary	20,116,937	88,487,000
Belgium	3,688,247	38,196,000
Brazil	....	28,673,000
Canada and Newfoundland	1,867,785	12,217,000
Chili	491,590	6,673,000
Denmark	2,884,350	8,041,000
France	82,602,649	408,147,000
Germany	37,249,868	169,221,000
Great Britain and Ireland	31,607,451	179,645,000
Greece	369,000	5,974,000
India (British)	16,063,390	225,373,000
Italy	14,218,258	109,377,000
Japan	5,839,829	50,992,000
Mexico	361,416	10,669,000
Netherlands	11,298,393	33,588,000
Portugal	2,402,369	9,505,000
Russia	25,421,671	132,518,000
Spain	5,580,911	55,516,000
Scandinavia	2,611,899	8,826,000
Switzerland	2,379,972	10,902,000
Turkey	2,976,600	17,079,000
United States of America	109,476,780	357,914,000

Advances made by Banks.

The advances which the various banks of issue have made to their customers averaged in 1871, £7,593,538, representing £14 19s. per head of the whole population; during 1889 the total had reached £39,956,031, equal to £36 4s. per head; which, whether viewed in connection with banking business outside Australia, or as illustrating the progress of the Colony, cannot but be regarded as extraordinary:—

Amounts Advanced by the Banks to their Customers—Yearly Average.

Year.	Amount of Advances.	Advances per head of Population.	
	£	£	s.
1871	7,593,538	14	19
1872	7,993,223	15	4
1873	9,116,831	16	15
1874	10,074,712	17	17
1875	11,770,185	20	3
1876	12,801,716	21	4
1877	15,354,507	24	8
1878	16,762,111	25	10
1879	17,098,052	24	15
1880	16,661,815	22	19
1881	19,038,386	25	1
1882	23,517,046	29	12
1883	25,894,669	31	1
1884	27,479,142	31	4
1885	30,556,628	32	16
1886	32,527,431	33	4
1887	33,352,179	32	12
1888	35,870,485	33	14
1889	39,956,031	36	4

Note circulation of Banks.

Banks trading in the Colony are allowed a note circulation equal to the amount of their paid-up capital and the coin and bullion in store. The Banks have in no instance availed themselves to the full extent of their privilege in this regard; indeed, if they were so disposed, such an issue of notes would be impossible, as the currency required for the business of the Colony is scarcely more than the value of gold retained in the vaults of the Banks. It will be seen from the following statement that the issue of paper by the Banks has been stationary for about eight years.

Notes and Bills in Circulation not bearing

Year.	Notes in Circulation.
	£
1871	694,344
1872	789,544
1873	920,620
1874	1,005,639
1875	1,080,088
1876	1,093,862
1877	1,129,279
1878	1,167,519
1879	1,123,123
1880	1,173,663
1881	1,390,376
1882	1,614,191
1883	1,677,146
1884	1,644,469
1885	1,714,095
1886	1,621,090
1887	1,526,096
1888	1,591,500
1889	1,489,153

Enormous development of banking.

Considering the population of these co
tions of Australasia have attained enor
following table from Mulhall's Dictio
employed in banking, and the amount of
principal countries. The figures regardin
down to the latest date :—

Capital and Deposits in the Banks of Various Countries.

Country.	Million £.			Amount per Inhabitant.
	Capital.	Deposits.	Total.	
				£
United Kingdom	270	570	840	25
France	55	150	205	6
Germany	85	200	285	6
Russia	45	110	155	2
Austria	36	130	166	5
Italy	31	60	91	3
Spain and Portugal	12	10	22	1
Belgium	7	20	27	5
Holland	6	20	26	7
Scandinavia	11	24	35	4
Europe	538	1,294	1,852	......
United States	145	386	531	10
Canada	17	18	35	8
Australasia	51	106	157	41

Assets and liabilities of Australasian Banks.

The general business transacted by the banks of each Colony is summarized on next page. The reserve of coin consists almost wholly of gold, only about 4 per cent. being in silver. The stock of coin and bullion held, £18,520,949, exceeded that of the Bank of England at the same date by nearly three-quarters of a million. The total assets amounted to £163,913,199, and the liabilities £112,810,466, so that the proportion provided by the banks out of their own resources was £51,102,733.

Bank Returns, Australasia—Averages for the last quarter, 1889.

Colony.	Liabilities.					Assets.						
	Notes in Circulation.	Bills in Circulation.	Balance due to other Banks.	Deposits.	Total Liabilities.	Coin.	Bullion.	Landed Property.	Notes and Bills.	Balances due from other Banks.	Notes and Bills discounted and all other Debts due to the Banks.	Total Assets.
	£	£	£	£	£	£	£	£	£	£	£	£
New South Wales.	1,516,047	120,498	258,103	33,777,143	35,671,791	4,984,874	82,704	1,542,621	306,464	2,479,071	40,756,6 6	50,152,350
Victoria..........	1,657,082	115,532	269,220	38,768,936	40,810,770	6,230,624	302,413	1,679,256	307,709	288,539	48,817,112	57,625,653
Queensland	665,436	30,634	87,686	10,182,388	10,966,144	1,869,508	322,385	685,513	19,283	262,843	17,511,086	20,670,618
South Australia ..	449,229	11,029	85,768	6,822,502	7,368,528	1,581,237	10,144	458,015	37,310	343,936	8,758,552	11,189,194
Western Australia	49,730	5,158	5,307	837,695	897,980	275,475	7,596	87,398	2,441	19,145	1,341,844	1,733,899
Tasmania	155,936	61,774	5,575	4,309,610	4,532,895	*578,820	....	111,144	.....	538,546	3,558,562	4,787,072
New Zealand	883,114	52,516	32,124	11,594,604	12,562,358	2,100,913	114,256	509,235	36,307	93,340	14,840,362	17,754,413
Total, Australasia	5,376,574	397,141	743,873	106,292,878	112,810,466	17,621,451	839,498	5,073,182	709,514	4,025,420	135,584,134	163,913,199

* Includes Bullion.

Rates of Interest.

The rate of interest allowed to depositors by banks of issue during the year 1889 was 3 per cent. for deposits fixed for three months, 4 per cent. for six months, and 5 per cent. for twelve months. The Savings and Post Office Banks gave interest at the rate of 4 per cent., the Savings Banks giving a point higher on all accounts remaining open to the end of the year. Interest was allowed by the Building and Investment Societies not issuing notes at the rate of 5, 6, and 7½ per cent. for the periods named above. The accompanying table gives the average interest per annum allowed by banks during each year since 1872:—

Average Interest per annum on Money deposited with Banks.

Year.	3 Months.	6 Months.	12 Months.
	per cent.	per cent.	per cent.
1872	2½	3½	4
1873	2½	3	3½
1874	3	3½	4
1875	3½	4½	5¼
1876	3	4	5
1877	3	4	5
1878	3½	4½	5½
1879	4	5	6¼
1880	3	4	5
1881	2	2¾	3¾
1882	2	3	4
1883	4	5	6
1884	3½	4½	5½
1885	3	4	5
1886	3½	4½	5½
1887	3½	4½	5½
1888	2½	3½	4½
1889	3	4	5

Rates of Discount.

The following table gives the discount charged by the banks for unexceptional bills. The table covers a period of eighteen years, during which the rates varied from 5½ to 7 per cent. for bills under three months, from 6¼ to 8 per cent. for four months, and from 7½ to 9 per cent. for bills with a currency over four months. In the last column of the statement the discount rates of the Bank of England during the same period are given:—

Average Discount Rates per annum in Local Banks.

Year.	Discount on Local Bills.			Bank of England Rate.
	Under 3 Months.	3 to 4 Months.	Over 4 Months.	
	Per cent.	Per cent.	Per cent.	Per cent.
1872	5½	6½	7½	4½
1873	5½	6¼	7½	5
1874	7	8	9	3⅗
1875	7	8	9	3¼
1876	7	8	9	3½
1877	7	8	9	3⅗
1878	7	8	9	3½
1879	7	8	9	2 9/10
1880	7	8	9	2 7/10
1881	6	7	8	3½
1882	6	7	8	4½
1883	7	8	9	3½
1884	6½	7½	8½	3⅞
1885	6	7	8	3
1886	6½	7½	8½	3⅞
1887	6½	7½	8½	3⅓
1888	6½	7½	8½	3½
1889	6½	7½	8½	3½

Large sums deposited in Banks.

In the next table is given the amount of deposits at the end of each year, from 1871 to 1889, in the Chartered Banks, the Savings Bank of New South Wales, and Post Office banks. The increase has been singularly rapid, not only absolutely, but also as compared with the increase in population. During the eighteen years the deposits increased from £7,989,801 to £38,057,226, the rate per head advancing from £15 8s. 7d. to £33 18s. 3d. The whole of the deposit banks of the Colony are not included in this table; a very considerable sum is received by building and other societies, which offer a larger interest than the ordinary banks, the Savings or the Post Office Banks. During the last quarter of 1889 the amount of money entrusted to these societies, as far as the returns show, was £2,599,272, so that the total amount of deposits in banks of all descriptions was £40,656,498, equivalent to £36 4s. 7d. per inhabitant. The figures in the ensuing table do not include sums in building and investment societies:—

Total deposits in Banks, &c.

Money on Deposit in Banks in New South Wales.

Year.	Banks.	Savings Banks.	Post Office Banks.	Total.	Amount per head of Population.		
	£	£	£	£	£	s.	d.
1871	7,043,886	931,688	14,227	7,989,801	15	8	7
1872	9,273,087	1,028,738	80,688	10,382,513	19	7	11
1873	10,279,324	1,164,561	206,070	11,649,955	21	0	9
1874	11,884,958	1,275,902	303,113	13,463,973	23	8	5
1875	13,650,892	1,295,797	354,075	15,300,764	25	14	11
1876	14,859,505	1,303,813	400,120	16,563,438	26	19	5
1877	16,325,043	1,355,258	467,453	18,147,754	28	3	10
1878	16,722,453	1,333,017	480,025	18,535,495	27	11	9
1879	17,862,840	1,410,905	511,357	19,784,102	27	17	9
1880	17,883,024	1,489,360	586,496	19,958,880	26	18	1
1881	20,308,017	1,427,202	971,501	22,706,720	29	3	2
1882	22,544,549	1,856,641	1,158,454	25,559,644	31	10	6
1883	23,739,134	1,822,319	1,183,519	26,744,972	31	3	8
1884	26,250,420	1,887,349	1,290,931	29,428,700	32	11	1
1885	26,709,386	2,016,656	1,471,894	30,197,936	31	10	6
1886	28,428,253	2,081,498	1,423,305	31,933,056	31	17	5
1887	29,253,864	2,174,439	1,501,454	32,929,756	31	11	6
1888	31,917,311	2,299,971	1,737,704	35,954,986	33	2	4
1889	33,777,143	2,550,192	1,729,891	38,057,226	33	18	3

Saving Banks.

During the year 1889 there was an increase in the savings banks, of depositors, to the number of 6,617, and in deposits to the extent of £242,408; part of this increase shown is due to interest earned during the year, and part to the extension of the Post Office system, under which there was an addition of over 5,000 depositors, although the total deposits were less than those of the preceding year by £7,813, but when full allowance is made on these accounts the increase will be found to be proportionately greater than that of the population. The number of depositors at the close of the last two years and the amount to their credit was :—

Savings Banks.	1888.		1889.	
	Depositors.	Amount.	Depositors.	Amount.
		£		£
Savings Banks	57,032	2,299,971	58,626	2,550,192
Post Office Banks ...	71,265	1,737,704	76,288	1,729,891
Total	128,297	4,037,675	134,914	4,280,083

Savings Bank Deposits.

Of the total deposits in the Savings' Bank, 31,006 were for amounts of £20 and under, averaging £5 2s. 8d. each; 9,930 were sums between £20 and £50, averaging each £32 8s. 6d.; 7,785 were between £50 and £100, averaging each £71 7s. 2d.; 8,505 were between £100 and £200, averaging £121 7s. 3d. each; 1,189 are between £200 and £300, averaging £212 1s. 2d.; and 211 over £300, averaging £1,085 17s. 8d. each. It is hardly to be supposed that these last are individual deposits; they probably included the sums lodged by the various penny banks and other public institutions.

Land and Building Societies.

Besides the chartered banks and those under Government guarantee, as already mentioned, there are banking, land, building and investment companies, which receive money on deposit. Statistics are now obtained of the operations of some of these Companies, and it would appear that they have assets to the extent of £6,396,308 against liabilities of £4,540,825, showing a nominal surplus of £1,855,483. Their subscribed capital amounts to £1,512,860 and reserved capital £600,143—in all £2,113,003. The most notable points about these Companies are the large dividends paid, from 6 to 25 per cent., and the large sum for which land figures in their assets. It will appear from the accompanying statement that these Companies hold land to the extent of

£3,493,634 at the end of 1889, their other assets, part of which represents lands sold, but not paid for, amounting to £2,902,674:—

Liabilities and Assets of Land, Building, and Investment Companies.

LIABILITIES.	£	ASSETS.	£
Bills in circulation	15,583	Coin and bullion	10,117
Balances due to other Banks	624,137	Landed property	3,493,634
Deposits not bearing interest	60,688	Notes and bills of other banks	16,778
Deposits bearing interest..	2,538,584	Balances due from other banks	24,376
Other liabilities	1,301,833	Notes and bills discounted, &c.	2,851,403
Total liabilities ...	£4,540,825	Total liabilities.....	£6,396,308

Excess of assets over liabilities	£1,855,483
Capital paid up........	£1,512,860
Reserved profits	£600,143
Number of Societies making returns	33

Bankruptcy proceedings.

During the year 1889 the total number of bankruptcy orders made was 1,101, with liabilities amounting to £794,603, and assets, £396,723, as shown by the bankrupts' schedules. This amounted to an increase of 250 bankrupts over those of 1888, when the liabilities and assets, as per bankrupts' schedules, were £659,307 and £459,677 respectively. The increase in the number of bankrupts in 1889 does not necessarily mean that it was caused by a depression of trade. The new Bankruptcy Act came into force at the beginning of 1888, and it is believed that many persons, fearing the stringency of that Act, rushed their estates into the Insolvency Court in 1887, thus causing the liquidations of 1888 to fall considerably below the average of the previous few years. The number in 1889 was less than that of either 1887 or 1886, but although the liabilities of both those years, as shown by the schedules, exceed the liabilities of 1889, the assets last year shows a marked falling off from those set down by the insolvents of two and three years ago. It must be borne in mind, however, that the figures in bankrupts' schedules, especially those relating to assets, are to be accepted with caution.

Number of Insolvencies and Bankruptcies in New South Wales, and Amount of Liabilities, Assets, &c.

Year.	Number of Insolvents.			Amount of Liabilities as shown in the insolvents' schedules.	Amount of Assets, as shown in the insolvents' schedules.	Amount of Deficiency shown in the insolvents' estates.
	Voluntary.	Compulsory.	Total.			
				£	£	£
1876	461	41	502	492,847	169,604	323,243
1877	534	54	588	508,352	210,821	297,531
1878	652	64	716	664,736	350,176	314,560
1879	767	96	863	781,334	306,103	475,231
1880	784	50	834	479,864	292,233	187,631
1881	664	60	724	379,290	218,212	161,078
1882	686	48	734	307,084	167,876	139,208
1883	720	65	785	444,594	245,836	198,758
1884	856	62	918	836,165	580,195	255,970
1885	849	80	929	773,212	589,359	183,853
1886	1,116	105	1,221	989,262	733,127	256,135
1887	1,249	102	1,351	1,081,726	788,941	292,785
1888	735	116	851	659,307	459,677	199,630
1889	935	166	1,101	794,603	396,723	397,880

Money secured by lien on wool.

The amount of money advanced on the security of the wool clip and the live stock of the Colony is always very large. Such advances do not necessarily mean a scarcity of money on the part of the borrowers, as the system of liens and mortgages is part of the ordinary method of carrying on the trade of the country. Advances were, however, made more largely during the years of depression, which extended over the period from 1878 to 1882, as will be seen by the following table:—

Preferable Liens on Wool and Mortgages on Live Stock, registered.

Year.	Preferable Liens on Wool.			Mortgages on Live Stock.				
	No. of Liens.	No. of Sheep.	Amount of Liens.	No. of Mortgages.	No. of Sheep.	No. of Horned Cattle.	No. of Horses.	Amount lent.
			£					£
1880	1,479	6,216,741	981,172	901	4,858,265	183,555	401	2,818,967
1881	1,609	5,709,061	904,012	1,275	5,982,994	215,564	9,646	4,623,915
1882	1,289	4,837,667	801,175	1,074	3,865,331	112,441	8,391	3,391,984
1883	1,301	6,349,801	1,026,574	1,077	3,601,890	131,068	7,389	2,486,407
1884	1,379	4,168,185	973,179	1,471	2,696,994	77,241	8,007	1,881,082
1885	1,236	5,263,407	1,327,214	1,431	4,730,233	117 241	10,764	2,962,471
1886	1,187	9,049,194	1,454,154	1,363	4,323,553	79,616	10,349	2,404,813
1887	1,285	9,296,975	1,685,655	1,563	3,954,286	79,312	11,464	2,054,785
1888	1,174	9,800,520	1,282,125	1,998	4,002,148	80,120	12,364	2,003,216
1889	1,169	7,861,233	1,282,065	2,018	4,572,477	100,026	11,824	2,432,704

Discharges of advances.

When any sum has been secured, both by a lien on the wool and by a mortgage of the sheep, the amount is included under the head of mortgages only. The above table does not, however, give an exact statement of the case, as a large portion of the advances made were discharged, as will be seen in the following table :—

Discharges of Mortgages on Live Stock registered.

Year.	Number.	Amount.	Year.	Number.	Amount.
		£			£
1880	232	3,804,475	1885	208	1,173,673
1881	399	2,781,122	1886	150	849,742
1882	258	1,900,443	1887	210	1,073,674
1883	126	600,426	1888	240	1,160,307
1884	306	3,801,352	1889	256	1,191,089

Advances in growing crops.

Other advances on produce are also made, the principal being those on growing crops. Such advances do not ordinarily reach large sums either individually or in their total. In 1888, owing to the drought, farmers were compelled to obtain much heavier advances than usual on such crops as survived the severity of the season; the advances for 1889 were a little over one third of those of 1888. The amount of advances made on crops for fourteen years was:—

Liens on Growing Crops registered.

Year.	Number.	Amount.	Year.	Number.	Amount.
		£			£
1880	797	81,626	1885	857	71,153
1881	897	42,255	1886	989	70,212
1882	854	40,379	1887	949	67,379
1883	814	50,789	1888	1,006	247,466
1884	888	54,057	1889	1,227	83,748

Mortgages registered.

Mortgage transactions have largely increased during the last ten years. The maximum was reached in 1885, when there were 11,661 mortgages, aggregating £17,445,488, nearly eight millions of which was lent on country lands. In 1888 the number of registrations was 11,726, but the amount was only £16,286,023; while in 1889, although 13,728 mortgages were registered, the sum advanced was only £14,534,265. These figures are incomplete, for there were many mortgages not registered; besides, in many instances the amounts lent by the banks are not stated, but simply the words, "valuable consideration," or "cash credit," inserted in the deed. There are two Acts of Parliament under which such transactions are registered. The following table shows the totals, and the numbers registered under each for the last ten years:—

Mortgages on Land registered.

Year.	Under Act 7 Vic. No. 16.		Under Act 26 Vic. No. 9.		Total.
	Number.	Amount.	Number.	Amount.	
		£		£	£
1880.........	2,995	4,048,952	2,193	3,902,272	7,951,224
1881.........	4,505	5,268,449	2,336	4,155,225	9,423,674
1882.........	4,159	4,924,596	2,605	4,710,855	9,635,451
1883.........	4,088	5,859,472	2,825	5,781,167	11,640,639
1884.........	4,653	5,620,421	3,437	4,447,739	10,068,160
1885.........	7,618	11,360,108	4,043	6,085,380	17,445,488
1886.........	6,933	7,570,210	4,295	5,975,898	13,546,108
1887.........	6,108	5,869,302	4,239	6,930,665	12,799,967
1888.........	7,452	8,765,109	4,274	7,520,914	16,286,023
1889	9,312	7,277,334	4,416	7,256,931	14,534,265

Mortgages discharged.

The amount of mortgages discharged has always been much less than the amount registered. This arises partly from the fact that mortgages are as a rule paid off by instalments, and the discharge is given for the last sum paid, which might happen to bear a very small proportion to the total sum borrowed. The number of mortgages under each Act discharged for the last ten years is as follows:—

Mortgages discharged.

Year.	Under Act 7 Vic. No. 16.		Under Act 26 Vic. No. 9.		Total.
	Number.	Amount.	Number.	Amount.	
		£		£	£
1880	1,860	715,148	1,052	1,945,915	2,661,063
1881..........	2,386	1,926,357	1,501	2,067,140	3,993,497
1882..........	2,051	1,676,224	1,603	2,417,460	4,093,684
1883..........	1,388	1,433,912	1,369	1,833,016	3,266,928
1884..........	2,216	1,957,765	1,696	2,684,470	4,642,235
1885..........	3,473	2,239,075	2,068	3,373,327	5,612,402
1886..........	2,773	2,515,398	2,082	2,164,254	4,679,652
1887..........	3,067	2,909,931	2,431	7,520,914	10,430,845
1888..........	4,160	4,273,034	2,926	4,179,503	8,452,537
1889..........	3,707	2,669,358	2,488	3,300,033	5,969,391

The total amount of liens on wool registered during the ten years from 1880 to 1889, as shown in the foregoing tables, was £11,717,324; the mortgages on live stock amounted to £27,060,345, and on land, £123,330,999, in all, £162,108,668. During the same period the mortgages discharged were: liens on wool to the full amount in due course, mortgages on live stock, £18,336,304, and on land, £53,802,233, making a gross total of £83,855,861. The sums of money advanced on mortgages of various kinds over that paid off was therefore apparently £78,252,807 in ten years. As regards the liens, such indebtedness does not exist, for the mortgages over stock and clip are for the most part terminated without being formally discharged. Even in the case of mortgages on real estate the amount outstanding does not represent money actually owing; in very many cases it simply represents the limits within which clients of banks and other loan institutions are entitled to draw, though many of these clients may be in credit while their property is mortgaged and unreleased. Making these allowances, the probable amount of private indebtedness on account of money advanced on mortgages of various kinds is about £33,000,000.

Amount of private indebtedness.

The larger portion of this sum represents the engagements incurred by pastoral tenants for the improvement or security of their estates, while a considerable part is due to the purchase of lands in the vicinity of Sydney on credit with payments in redemption extending over a number of years. The weight of this burthen of mortgage will have to be largely reduced before that elasticity will again be found in trade which was visible a few years ago.

Postal business money orders.

The business transacted by the Postal Department in money orders has grown to very large dimensions, for while in 1876 there were issued 18 orders to every hundred persons in the community, in 1889 the number reached nearly 36, the total value advancing from £465,771 to £1,188,227, while the value of orders paid rose from £421,162 to £1,108,086 during the same period. This increase is due mainly to the greater facilities now afforded for the transmission of money by this method, though it is also to some extent attributable to the more general appreciation of the money order system amongst the working classes of the community. The following is a statement of the business transacted since 1876:—

Money Orders issued and paid, and Commission received.

Year.	Issued.		Paid.		Commission.
	Number.	Amount.	Number.	Amount.	
		£		£	£
1876	112,684	465,771	101,492	421,162	4,663
1877	129,120	494,469	120,493	450,477	5,248
1878	142,025	538,800	129,143	487,458	5,772
1879	159,897	582,423	142,201	515,076	6,488
1880	190,606	669,022	168,944	583.340	7,684
1881	220,670	771,978	195,757	675,025	8,799
1882	247,716	883,524	218,334	771,861	10,027
1883	275,592	963,698	239,595	829,770	11,371
1884	305,883	1,068,068	270,678	921,904	12,651
1885	337,856	1,169,569	298,082	997,961	14,243
1886	345,825	1,134,955	309,576	982,336	14,927
1887	360,759	1,131,884	330,594	1,010,297	14,960
1888	388,416	1,215,132	368,081	1,116,433	15,807
1889	400,487	1,188,227	390,414	1,108,086	15,961

Fire risks.

The extent of fire risks held by the Insurance Companies transacting business in the Colony cannot be ascertained exactly. It is not made compulsory upon the Companies to give returns, and in several cases they have abstained from doing so. The following is an account of the amount of risks at the end of 1889, as far as the returns have come to hand:—

	£
Sydney and Suburbs	57,148,388
Country—	
Broken Hill	325,000
Goulburn	800,000
Glen Innes	165,430
Hamilton	60,417
Lismore	72,000
West Maitland	866,515
Nowra	49,205
Wagga Wagga	301,638

The declared amount of risks held in Sydney and suburbs during the past six years was :—

	£
1884	36,691,000
1885	41,631,582
1886	46,253,370
1887	49,209,395
1888	53,583,000
1889	57,148,388

Increase of risks to population.

The gross increase for the period of five years shown was £20,457,388 or 55·7 per cent. During the same period the population of the metropolitan district increased about 24·2 per cent., from which it would appear that the wealth of Sydney is advancing at a rate much more rapid than the population, though the increase of the later is abnormally large. Some part of the increase shown may be due to an extension of the facilities offered to insurers, but the amount due to such cause will not be very large.

Fires in metropolis.

The number of fires which occurred in the Metropolitan district during the year was 225, which may be classified as follows, according to the damage done:—

Slight damage	179
Serious damage	17
Total destruction	29
Total	225

Besides these there were 45 chimney fires and 33 false alarms.

Of the premises totally destroyed by fire 19 were insured and 6 not insured, while in 4 cases it was not ascertained whether the properties were insured. Of the other serious fires the damage was covered in every case. The information regarding insurance was not obtained in all instances where the loss was slight, but of the property reported to be damaged slightly the loss was insured in 121 cases, uninsured in 22 cases, and 36 insurance unknown. So that it would appear the total number of insurances was 157 as against 28 non-insurances, or 84·8 per cent. of the whole number for which the information is available. The percentage just given must be taken with qualification, for as the premises and the property therein contained frequently belong to different persons, so in order to gauge the extent to which insurance is practised, it would require to be ascertained in how many instances the double insurance was effected, for in the returns above given a property is considered insured if the premises be covered and the contents uninsured, the converse also being the case.

Firemen in metropolitan district.

The total number of firemen attached to the brigades in the metropolitan and country districts was as follows, the number of fires attended being also given :—

Name of Station.	Number of fires attended.	Average number of men in the brigades.
City Companies—		
Metropolitan Fire Brigades (3 stations)...	225	30
North City	55	14
Paddington Brewery	61	26
Theatre Royal	5	....
Standard Brewery	82	20
Suburban Companies—		
Alexandria	29	19
Ashfield	15	17
Balmain (2 stations)	13	39
Burwood	7	17
Darlington	33	15
Glebe	20	16
Leichhardt	19	16
Manly	4	21
Newtown	25	17
Paddington	25	16
Parramatta No. 1	4	21
Parramatta No. 2	2	24
Redfern	9	....
St. Leonards (2 stations)	1	24

Name of Station.	Number of fires attended.	Average number of men in the brigades.
Suburban Companies—*continued.*		
Waterloo	16	20
Waverley	14	20
Woollahra	16	19
Country Companies—		
Bathurst	9	20
Broken Hill	53	21
Deniliquin	3	20
Goulburn	7	24
Glen Innes	4	17
Hamilton	11	20
Hay	4	12
Honeysuckle	16	30
Lismore	....	20
West Maitland	....	26
Newcastle Hose and Reel	14	20
Newcastle Salvage and Ambulance Corps	14	30
Stockton	3	20
Tighe's Hill	6	20
Wagga Wagga	3	18
Wallsend and Plattsburg	1	15
Total	827	744

LIFE ASSURANCE.

Law relating to Assurance.

The law does not provide for the publishing of sworn returns by Life Assurance Companies, and although valuable and interesting reports are made annually by some companies, it has been found quite impossible to distinguish the progress of assurance in New South Wales, as distinct from the other Colonies. Most of the companies have extended their business beyond the Colony in which their Chief Office is established; the following figures therefore refer to Australasia generally, though only to those offices whose head-quarters are in the Colonies. The assets of the twelve societies amount to £14,742,940, of which £7,756,329 are invested in mortgage, £2,396,281 in loans on policies and personal security, £1,249,599 in Government securities, £123,478 in shares, £1,696,014 in freehold and leasehold property, and cash, principally at fixed deposit, £1,023,093, and sundry debts, £498,146. The interest earned during the year amounted to £786,514, being at the rate of 5·95 per cent.; the total increase in the accumulated funds was £1,444,657, and the net increase £1,401,932.

Analysis of assurance business.

On analysing the accounts of these Societies, as published, it is seen that the total number of outstanding policies, and the amount they represent, are not given. With regard to new business, it will be found that in 1889 there were 30,497 policies issued, to the value of £8,690,542, or an average amount upon each policy of £285. This means an increase of 70 policies, amounting to £101,594, over the transactions of the previous year, and an advance in the average value of the pólicies by £3—the highest average for the last nine years. Since the end of the year 1880 the Societies in question issued altogether no less than 268,172 new policies, representing an assurance of £73,975,803, but there is nothing in the published accounts to show how many of these policies have lapsed, and how many still remain in force. The new annual premiums, which amount to £277,456, bear an average rate of £3·194 per cent. to the total amount of new assurance—the lowest average for the last nine years.

New policies.

Premiums received.

The amount of premium received in 1889 was £2,149,085, of which sum £257,531 was income from new premiums, and £1,891,554 was for renewals. The amount just given was £162,702 in excess of the income of the previous year. The total receipts, obtained by adding to the premium income the items "consideration for annuities granted," "interest," and other receipts, came to £2,966,917, as against the sum of £2,781,127 in the year 1888, being an increase of £185,790. The average rate of interest realised by all the offices, as already stated, was 5·95 per cent., an improvement of 0·04 per cent. upon the previous year. The purely mutual offices, however, realised 6·01 per cent.

Claims and surrenders.

Claims and surrenders during the year amounted to £992,141, of which sum £658,663 was for claims with bonus additions; £97,625 for endowments and endowment assurances matured; and £235,853 for surrenders, &c. The total amount paid to policy-holders in 1889 was £1,060,495, as against £956,689 in 1888. The expenses of the year exceeded those of the previous year by £460,364, but this increase is not nearly so large, relatively, as the increase in the income, the difference being 0·85 per cent. on the premium income, and 0·56 per cent. on the gross income.

MOVEMENTS OF GOLD.

Import and export of Gold

Since the discovery of gold in the year 1851 large quantities of that metal—in the form of bullion as well as coin—have been exported from the Australasian colonies every year. The returns for Western Australia have not been officially kept, and therefore are not available, but the amount of gold imported and exported from each of the other colonies, calculated for five-year periods from the year 1851 to the end of 1889, is given herewith. The tables also show the amount by which the exports have exceeded the imports in the various colonies, or *vice versa*, as the case may be, and the average amount of such excess per annum.

Export of each Colony.

Reference to the figures shows that Victoria was by far the largest exporter of gold, her total during the whole period amounting in value to £241,067,646, while she imported to the value of £33,926,967, the bulk of which came from New Zealand. The excess of exports over imports in the case of Victoria amounted to £207,140,679. The next largest net exporter was New Zealand, whose excess of exports over imports was £41,526,136, her gross export being £48,197,252, the balance being gold imported, chiefly in the shape of coin. The gross export of New South Wales was much larger than that of New Zealand, amounting to £72,580,066, but she had imported to the value of £44,730,336, so that her excess of exported gold came to but £27,849,730. Queensland came next with an excess of gold exported, amounting to £20,774,384. In the case of Tasmania the amount by which the export of gold exceeded the imports was £1,821,304, but the Colony of South Australia imported gold to the value of £244,973 over and above the amount of her total export.

Producers the largest exporters.

The largest exporters of gold, it will be found, are the largest producers, as Victoria, New Zealand, and Queensland. The other colonies now produce very little more than sufficient to meet their local requirements. The returns of the gold imports and exports for New South Wales, it must be remembered, are swollen by large quantities of Queensland gold, which is simply sent to Sydney to be minted, and then exported in the shape of coin.

Value of Gold (Bullion and Specie) Imported and Exported in each of the Australasian Colonies, 1851–88.

Year.	New South Wales.		Victoria.		Queensland.		South Australia.		Tasmania.		New Zealand.	
	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.
	£	£	£	£	£	£	£	£	£	£	£	£
1851-55 ..	2,182,397	5,895,413	2,112,330	35,491,153	....	......	890,673	2,891,155	....	818,228	11.361	50,500
1856-60 ..	1,692,367	6,316,418	2,237,127	55,200,438	....	......	200,339	100,812	....	24,801	158,967	168,809
1861-65 ..	4,542,675	13,075,907	3,793,130	38,610,933	106,175	204,558	548,699	217,495	10,000	320	989,352	9,245,872
1866-70 ..	7,605,362	12,728,780	8,028,685	35,819,924	260,850	1,931,042	333,450	269,021	48,500	17,616	738,573	12,776,875
1871-75 ..	7,221,739	11,679,003	6,804,924	29,135,595	509,645	4,934,840	722.078	216,723	72,201	70,820	1,064,927	9,665,285
876-80 ..	6,086,401	6,878,131	4,063,913	18,955,874	874,177	5,879,119	900,124	305,170	330,245	490,322	1,247,400	6,862,185
1881-85 ..	6,613,701	7,740,345	3,960,095	18,679,635	916,599	4,545,954	1,118,776	575,470	264,440	819,073	1,031,890	5,200,890
1886-89 ..	8,785,604	8,266,069	2,926,763	9,174,094	1,298,174	7,244,491	584,253	477,573	190,518	496,034	1,428,646	4,217,836
Totals..	44,730,336	72,580,066	33,926,967	241,067,646	3,965,620	24,740,004	5,298,392	5,053,419	915,904	2,737,208	6,671,116	48,197,252

Excess of Exports over Imports of Gold (Bullion and Specie).

Year.	New South Wales.	Victoria.	Queensland.	South Australia.	Tasmania.	New Zealand.
	£	£	£	£	£	£
1851–55	3,713,016	33,378,823	....	2,000,482	818,228	39,139
1856–60	4,624,051	52,963,311	....	*99,527	24,801	9,842
1861–65	8,533,232	34,817,803	98,383	*331,204	*9,680	8,256,520
1866–70	5,123,418	27,791,239	1,670,192	*64,429	*30,890	12,038,302
1871–75	4,457,264	22,330,671	4,425,195	*505,355	*1,381	8,600,358
1876–80	791,730	14,891,961	5,004,942	*594,954	160,077	5,614,785
1881–85	1,126,554	14,719,540	3,629,355	*543,306	554,633	4,178,000
1886–89	*519,535	6,247,331	5,946,317	*106,680	305,516	2,789,190
Total, excess of exports	27,849,730	207,140,679	20,774,384	*244,973	1,821,304	41,526,136

* Excess of imports.

Excess of Exports over Imports of Gold (Australasia).

Year.	Amount.	Average per annum.
	£	£
1851–55	39,949,688	7,989,938
1856–60	57,522,478	11,504,496
1861–65	51,365,054	10,273,011
1866–70	46,527,832	9,305,566
1871–75	39,306,752	7,861,350
1876–80	25,868,541	5,173,708
1881–85	23,664,776	4,732,955
1886–89	14,662,139	3,665,535
1851–89	298,867,260	7,663,263

PART XX.

Instruction, Science, and Religion.

PRIMARY EDUCATION.

Early system of subsidies.

THE history of primary education in New South Wales is naturally divided into four periods. During the first period, which lasted until 1848, the system in force was purely denominational, the Government granting to the heads of religious bodies assistance in proportion to the amount expended by them for educational purposes. No provision was made for the establishment of schools entirely under State control, and considerable dissatisfaction was the result. As early as 1834 attempts were made to modify the system in force, and five years later a grant was made with the object of securing undenominational education for the children of those who preferred it. It was not, however, until 1844 that any definite steps were taken in this direction. In that year a Committee of the Legislative Council reported in favour of the adoption of the Irish National School system, and, in accordance with this recommendation, an Act was passed constituting two Boards, to one of which was entrusted the administration of denominational education, and to the other the undenominational, or, as it was called, the National system. This anomaly of two rival Boards existed for eighteen years, until it was abolished by the passing of the Public Schools Act of 1866. This Act provided for two distinct classes of schools, though all schools receiving aid from the State were nominally under the control of a Board appointed by the Government, and styled the Council of Education. The Public Schools were entirely

First grant in aid of undenominational education

The Public Schools Act of 1866.

administered by this Board, but the denominational schools were partly governed by the various religious bodies by whom they had been founded. Although the system established by the Act of 1866 was essentially one of transition, education nevertheless made considerable progress during the years of its administration. But it was found impossible to maintain this dual system, not only on account of its intrinsic defects but because the principle of granting State aid to religious schools was repugnant to the feelings of the majority of the people.

In 1880 State aid to denominational education was abolished. By an Act passed under the auspices of Sir Henry Parkes, which received the Royal assent on the 16th April, 1880, the entire educational system of the Colony was remodelled. The Act, in the first place, repealed the Education Act of 1866, dissolved the Council of Education, and placed the control of educational matters in the hands of the Minister of Public Instruction. It provides for the establishment and maintenance of Public Schools, to afford primary instruction to all children without sectarian or class distinction; Superior Public Schools, in which additional lessons in the higher branches may be given; Evening Public Schools, with the object of instructing persons who may not have received the advantages of primary education; and High Schools for boys and girls, in which the course of instruction shall be of such a character as to complete the Public School curriculum, or to prepare students for the University. It provides that in all schools under the Act the teaching shall be strictly non-sectarian; but the words "secular instruction" are held to include general religious teaching, as distinguished from dogmatical or polemical theology. The History of England and of Australia are to form part of the course of secular instruction; and it is further provided that four hours during each school day shall be devoted to secular instruction exclusively, but one other hour each day may be set apart for religious instruction, to be given in a separate class-room by the clergyman or religious teacher of any persuasion,

State aid to denominations abolished.

Minister of Public Instruction.

Primary instruction.

Secondary education.

Secular instruction.

Religious instruction.

to the children of the same persuasion whose parents do not object to their receiving such religious instruction. This provision has been taken advantage of to some extent by most of the denominations.

Education compulsory.

It is made compulsory upon parents to send their children, between the ages of six and fourteen years, to school for at least seventy days in each half-year, unless just cause of exemption can be shown. Penalties are provided for breaches of this provision. But although education is compulsory, it is not altogether free, for parents are required to pay a weekly fee of three pence per child, but not exceeding one shilling in all for the children of one family. Power is given, however, to the Minister, or the Local Board, to remit the fees where it is shown that the parents are unable to pay. The fees, except in Evening Schools, are not the property of the teacher, but are paid into the Consolidated Revenue Fund. Children attending school are allowed to travel free by rail.

Weekly fee

Other sections of the Act permit of the establishment of Provisional Schools, and the appointment of itinerant teachers in remote and thinly-populated districts. Provision is also made for the establishment of training schools for teachers. It is enacted that Local Boards shall be appointed, whose duty is to visit and inspect the Public Schools placed under their supervision, to suspend teachers in cases of misconduct not admitting of delay and to endeavour to induce parents to send their children regularly to school, and to report the names of parents or guardians who refuse or fail to educate their children. It should be observed that parents are not compelled to send their children to the Public Schools; they have full choice in the matter, the State only insisting that a certain standard of education shall be attained.

Local Boards.

Progress of education.

Great as has been the material progress of the Colony, its intellectual advancement has been much more rapid. In the records of the marriage registers signed by marks, a most accurate gauge of educational progress will be found. The earliest official record of marriages was for the year 1857, when out of 5,804 persons married 1,646 or 28·36 per cent. were unable to sign the marriage register. During 1889 the number of such persons was only 504, or 3·36 per cent. of the total number married. A generation has passed away during the period embraced by the following table, and the progress shown thereby cannot fail to be interesting.

Progress of Education in New South Wales, as shown by the Number of Persons signing Marriage Register with Marks.

Year.	Persons married.	Percentage signing with marks.	Number signing with marks.	Year.	Persons married.	Percentage signing with marks.	Number signing with marks.
1857	5,804	28·36	1,646	1874	8,686	11·96	1,039
1858	5,984	20·86	1,248	1875	9,210	12·26	1,129
1859	6,590	26·86	1,770	1876	9,260	10·47	970
1860	5,890	26·46	1,559	1877	9,988	9·76	975
1861	6,444	24·60	1,585	1878	10,634	8·10	863
1862	6,652	25·01	1,664	1879	10,782	7·58	818
1863	6,628	22·69	1,504	1880	11,144	6·66	743
1864	6,960	22·70	1,580	1881	12,568	6·94	872
1865	7,156	22·06	1,579	1882	13,896	5·63	782
1866	6,924	21·63	1,498	1883	14,810	6·10	903
1867	6,852	18·84	1,291	1884	14,964	5·23	783
1868	7,472	20·14	1,505	1885	15,236	4·74	723
1869	7,598	19·19	1,458	1886	15,622	3·98	622
1870	7,696	18·23	1,403	1887	15,180	3·50	531
1871	7,906	16·96	1,341	1888	15,688	3·74	587
1872	7,850	13·62	1,069	1889	14,990	3·36	504
1873	8,768	14·26	1,252				

Marvellous progress of education.

The progress exhibited in the above table is marvellous. The residuum of population not yet educated is already very small, and, moreover, of the 504 persons using marks a large proportion were not born in New South Wales, but arrived in this Colony too late in life to avail themselves of its educational system. The proportion of persons using marks is somewhat higher in this Colony than in any other member of the group, except Queensland. This is in no sense due to the superiority of the educational system of those colonies, but rather to the number of immigrants attracted to New South Wales, amongst whom there will always be found many persons unable to write.

Illiteracy in other Colonies.

Figures respecting all the colonies are not available, and in most of them the particulars as to the number of persons signing with marks cannot be procured later than 1888. In the year mentioned the degree of illiteracy, as disclosed by the marriage registers, was—

	Percentage signing with marks.
New South Wales (1889)	3·36
Victoria	1·77
Queensland	3·99
South Australia	2·42
New Zealand	2·09

Children instructed in former years.

Only an imperfect comparison can be made as to the number of children under instruction during past years, as the number in actual attendance cannot be distinguished from the number enrolled. The following table, however, gives the number of schools, both public and private, and enrolled scholars for over fifty years, and though it cannot be taken as absolutely correct, it may be relied on as fairly indicative of the educational progress of the Colony :—

Progress of Education in New South Wales.

Year.	Population of the Colony.	No. of schools.	Children enrolled.	Proportion of population enrolled.
				per cent.
1836	77,096	85	3,391	4·40
1841	149,669	209	9,632	6·44
1846	196,704	394	19,033	9·68
1851*	197,168	423	21,120	10·71
1856	286,873	565	29,426	10·26
1861†	357,978	849	37,874	10·58
1866	428,813	1,155	59,594	13·90
1871	517,758	1,450	77,889	15·04
1876	614,181	1,629	131,620	21·43
1881	778,690	2,066	166,536	21·40
1886	1,001,966	2,833	220,724	22·02
1889	1,122,200	3,087	235,000	20·94

* The separation of Victoria took place in this year.
† Queensland became a separate colony in December, 1859.

The number of children given in the preceding table as enrolled in the various schools exceeds, in almost every case, the actual school attendance, as the gross enrolment for the year is given, and not the mean for each quarter. The latter information cannot be obtained except for recent years, but the figures as they stand give a basis of comparison, which is not without value.

Enrolment of children.

The following table shows the gross enrolment of distinct children during the nine years which closed with 1889, as well as the quarterly enrolments, in all the schools of the Colony. The last column may be taken as giving the nearest approximation to the number of children actually under tuition in State and private schools :—

Year.	Schools.	Teachers.	Scholars.		
			Gross enrolment.	Mean quarterly enrolment.	Percentage of children of School age attending School.
1881	2,066	3,772	166,536	145,936	83·66
1882	2,161	4,154	188,507	156,768	82·08
1883	2,315	4,543	189,983	164,270	82·38
1884	2,535	4,860	202,519	174,544	83·95
1885	2,666	5,267	210,743	183,873	83·96
1886	2,833	5,659	220,724	192,010	83·50
1887	2,925	5,714	224,510	197,712	81·91
1888	2,964	5,870	229,043	201,083	80·27
1889	3,087	5,993	235,000	206,326	76·97

Number of children of school age.

The number of children of school age—that is to say, from four to fifteen years—during 1889 was 305,300, and of this number 233,977, excluding 1,023 attending the University and colleges, were receiving instruction in the schools of the Colony. Of these 191,215 were on the rolls of the State schools, and the remainder were distributed among the various private schools, reformatories, and charitable institutions, while 70,300 were either receiving no instruction, or were being taught at home. No reliable estimate of the number of children under home tuition can be made, neither is it possible to determine the number of those who have ceased to attend school before reaching their fifteenth year, but it is very probable that considerable numbers are to be found in both classes. The total known enrolment at private schools was 41,625, and the average attendance, 33·919.

Compulsory clauses not strictly enforced.

Owing to the sparseness of the population in nearly all the country districts of the Colony, the compulsory clauses of the Instruction Act cannot be strictly enforced. Nevertheless, the number of children growing up in absolute ignorance is by no means great, and, though the proportion of such children cannot be even approximately determined, there is sufficient evidence to warrant the conclusion that it is steadily decreasing. At the last three census the proportions of children from 5 to 10 years who could read and write were in every ten thousand as follows:—

	1861.	1871.	1881.
Read and write	2,355	3,470	4,413
Read only	3,289	2,752	1,982
Unable to read	4,356	3,778	3,605

Taking the children from 10 to 15 years, the comparison is still more satisfactory:—

	1861.	1871.	1881.
Read and write	6,769	7,666	8,804
Read only	1,854	1,292	614
Unable to read	1,377	1,042	582

Progress of education amongst children.

The steady decrease in the proportion of illiterate children from 1861 to 1871, and from 1871 to 1881, is plainly visible from the above tables, and there can be little doubt that this satisfactory decrease has since continued.

PUBLIC INSTRUCTION—STATE SCHOOLS.

Schools when present Act came into force.

When the present Public Instruction Act came into operation, on the 30th April, 1880, the Council of Education ceased to exist, and handed over to the new administration the schools, until then under its control. At the date mentioned, there were maintained, or subsidized by the Government, 1,220 schools, attended by 101,534 scholars, thus distributed:—

	No. of Schools.	No. of Pupils.
Public	705	68,823
Provisional	313	8,312
Half-time	97	1,683
Denominational	105	22,716
	1,220	101,534

At the close of 1882 the connection of the denominational schools with the State ceased, and the subsequent year is marked, as was to have been expected, by a considerable falling off in the number of children who were receiving their education at the expense of the State. The check only operated for a short period, as the year 1884 shows a recovery of more than the ground lost. This will be seen by the following table which shows the enrolment and attendance of children at State supported schools only :—

Enrolment since passing the Act.

Year.	Gross enrolment of distinct children.	Quarterly enrolment.	Average attendance.
1880	*	111,277	72,969
1881	146,106	125,506	82,890
1882	166,611	134,872	90,944
1883	155,918	130,205	88,546
1884	167,134	139,159	95,215
1885	173,440	146,570	100,462
1886	179,990	153,244	105,538
1887	184,060	157,262	106,408
1888	186,692	160,919	112,220
1889	191,215	164,701	114,569

* Not ascertained.

In the quarterly enrolment for 1889, 19,612 of the children were under the age of 6 years, 134,218 between 6 and 14, and 10,871 over 14 years of age.

Increase in enrolment.

Since the withdrawal of aid from denominational schools the increase in the average quarterly enrolment at State schools has been 26·49 per cent., the increase in each year being :—

1884	6·88	per cent.
1885	5·32	,,
1886	4·55	,,
1887	2·62	,,
1888	2·32	,,
1889	2·35	,,

Number of schools.

The number of schools under the direct control of the Department, during 1889, was 2,373, thus classified :—

High Schools	5
Public Schools— mixed	1,545
,, Two departments	53
,, Three departments	72
,, Five departments (including Practising School and Kindergarten)	1
Provisional Schools	325
Half-time Schools	258
House-to-house Schools	92
Evening Schools	22
Total	2,373

State Schools in Australasian Colonies.

The following table gives the number of State schools in each of the Australasian Colonies, together with the number of scholars and the average attendance :—

State Schools.

Colony.	Number of Schools.	Number of Teachers.	Number of Scholars. [Average Attendance.]	Average attendance of Pupils per School.
New South Wales	2,373	4,002	114,569	48
Victoria*	1,933	4,234	128,958	66
Queensland	722	1,497	81,723	113
South Australia	540	1,076	27,724	51
Western Australia	78	139	3,310	42
Tasmania*	220	429	8,731	39
New Zealand*	1,128	2,839	90,108	79

* 1888; others 1889.

Number of Teachers.

The teachers in New South Wales during the year numbered 4,002, viz., 1,982 males, and 2,020 females.

	Males.	Females.	Total.
In charge of departments	1,499	882	2,381
Assistants	133	370	503
Pupil-teachers	344	688	1,032
Others	6	80	86
Total	1,982	2,020	4,002

The average number of pupils on the basis of the mean quarterly enrolment per teacher was, therefore, 41·15, and the average attendance per teacher, 28·63, while the average enrolment of children per school was 80·60.

Public School curriculum.

The curriculum of the public schools of New South Wales provides merely for imparting to children a sound course of primary education, and the elements of those sciences which form the basis of higher courses of education, scientific or technical. The State provides separately the necessary facilities for acquiring technical knowledge, under a system of training recently introduced, about which more will be said further on.

The staff of male and female Public School teachers is trained in the normal schools of the Colony—the Fort-street training school for male teachers, and the Hurlstone training school for female teachers. These establishments are under the strictest supervision, Training of Teachers.

and improvements are made every year in order to keep pace with the most modern systems of training. Admission is obtainable to these schools by examination, and the students are almost exclusively recruited from the ranks of both sexes of the pupil-teachers. These pupil-teachers are selected with great care, as they are required to undergo severe examinations, and must also satisfy the department as to their physical aptitude and the soundness of their constitutions, in view of the arduous nature of the duties they are called upon to perform.

During the year 1889 the number of teachers in the service of the Department of Public Instruction was, as already stated, 4,002. The teachers obtain promotion only after passing a series of examinations, which are so framed as to efficiently test their progress in general capacity. There are ten classes of male teachers in charge of schools or departments, their emoluments ranging from £128 to £500 per annum including residence; unclassified teachers in charge of Provisional Schools receive from £60 to £90; assistant teachers are paid at rates varying from £108 to £250; and pupil-teachers from £36 to £66 per annum. Female teachers in charge of schools or departments are paid from £218 to £236 per annum, including value of residence; assistant teacher's salaries vary from £100 to £168; and pupil teachers receive from £24 to £48 per annum.

Public School Boards.

The local supervision of the Public Schools of the Colony is placed in the hands of Public School Boards appointed in the various districts of the Colony, under the provisions of the Public Instruction Act. These boards exercise a general oversight over the Public Schools in their districts, but cannot interfere with the internal discipline or management of the schools, which remain under the direct control of the Minister of Public Instruction, and the inspectors and other officers of his department.

Average cost of education per scholar.

The average cost per child of the average attendance in the Public Schools has greatly varied, as will be seen by the following table, which gives the averages for the nine years, 1881 to 1889, inclusive.

Year.	For school premises.			For the maintenance of schools.			For administration, including the amount paid as retiring allowances.			Total.		
	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.
1881	1	4	9¾	3	15	3	0	14	3¾	5	14	4½
1882	2	10	2¾	3	15	1¾	0	10	8¼	6	16	0¾
1883	4	8	3¾	4	2	0¼	0	15	3½	9	5	7½
1884	3	3	11	4	4	2¾	0	14	5¾	8	2	7½
1885	1	15	5¼	4	3	7	0	13	1¼	6	12	1½
1886	1	9	4½	4	1	6	0	13	1½	6	4	0
1887	1	2	6½	4	3	7½	0	11	3½	5	17	5½
1888	0	15	1	4	1	7¾	0	9	8½	5	6	5
1890	0	19	1½	4	2	6¼	0	9	3¼	5	10	11

Cost per child in other colonies.

In the Public Schools of New South Wales the cost per child was until 1888 higher than in the other Australian Colonies; the figures for last year, however, show this Colony has now reduced its expenditure per child below that of Victoria, though it is still a little over that of Queensland. The following figures do not include cost of buildings :—

	Total cost per child of the average attendance.
New South Wales	£4 11 9·72
Victoria	5 1 7·27
Queensland	3 17 10·66
South Australia	3 6 8·52
Western Australia	3 18 10·06
New Zealand	3 13 5·86
Tasmania	3 4 0·62

The cost per child in average attendance at the Board Schools, England, was £3 5s. 5d.

Expenses incidental to starting present Act.

It must be borne in mind, however, that a considerable outlay was needed to build the necessary school-houses after the Act of 1880 became law. Under this Act the expenses contingent upon the necessity of obtaining efficient results, in a country so sparsely populated as New South Wales, were unavoidably great. School-houses had to be built, teachers required training, and the whole machinery for providing schools and teachers had to be started in so many parts of the country where there were none but denominational schools, and frequently no educational establishments at all. To these initial expenses was due, in a great measure, the relatively high cost of public education in the Colony of New South Wales during past years. A great reduction was observable in 1888, though 1889 showed a slight increase, and it may be expected that the cost will be still further lessened, as the school-houses have been built with due regard to the increase in the number of scholars which must be expected in a young, prosperous, and growing colony. It may be added that most of the school-buildings are of such a character as would do credit to the most advanced countries in the world, the greatest care being taken to have them replete with all the modern improvements, which the experience of centuries has suggested in older communities.

Comparative cost of education.

When comparing the average cost of education per child in attendance in New South Wales with that of its neighbour, Victoria, the results for 1889 must appear very satisfactory, especially when it is borne in mind that the smaller extent of the territory of the latter colony, and the greater travelling facilities, which a railway system proportionately much larger offers, must necessarily reduce the cost of education. In South Australia and Western Australia settlement is confined to certain districts in which the population is more compact, whilst the whole of the territory of New South Wales, if we except the extreme west, may be regarded as everywhere settled, at least to such an extent as to necessitate the extension of the Public School system throughout the greater part of the Colony. But the spread of public instruction is considered so pre-eminently important an object that the Legislature has at all times expressed its readiness to make every sacrifice, and spare no expense to render efficacious the system of national education which it adopted in 1880.

Amount expended on primary education.

The following table will show the total amount expended by the State since the year 1881, and the annual amount per head of population provided for the primary education of the children of the Colony :—

Year.	Amount.	Per head of population.		Year.	Amount.	Per head of population.	
	£	s.	d.		£	s.	d.
1881	474,157	12	7	1886	654,411	13	1
1882	618,800	15	7	1887	624,983	12	0
1883	821,853	19	8	1888	597,102	11	3
1884	774,357	17	7	1889	635,509	11	6
1885	663,697	14	3				

Details of expenditure on education.

This statement would not be complete if some details were no furnished, showing under what principal heads this expenditur was incurred, and the amount of school fees received during th same period :—

State Expenditure on Education.

Year.	Number of Schools.	Gross enrolment of distinct Pupils.	On school premises.	On maintenance of Schools, including Administration, &c.	Total.	School Fees.	Net State Expenditure.
			£	£	£	£	£
1881	1,667	146,106	102,903	371,254	474,157	46,347	427,810
1882	1,795	166,611	228,401	390,399	618,800	51,312	567,488
1883	1,706	155,918*	391,000	430,853	821,853	51,427	770,426
1884	1,912	167,134	304,383	469,974	774,357	56,766	717,591
1885	2,046	173,440	178,002	485,695	663,697	58,926	604,771
1886	2,170	179,990	155,072	499,339	654,411	63,165	591,246
1887	2,236	184,060	119,957	505,026	624,983	63,896	561,087
1888	2,271	186,692	84,575	512,527	597,102	69,554	527,548
1889	2,373	191,215	109,576	525,933	635,509	72,318	563,191

* Certified Denominational Schools were discontinued at the close of 1882.

School fees

It will be seen that the amount directly contributed by parents towards their children's education is but a small proportion of the total cost. In 1889, however, it was considerably larger than in any year since the existing Act came into force, as well as larger per head, as may be seen from the following statement :—

Average cost of Education per Child.

Year.	Cost to State per Child of Average Attendance.	Total Cost per Child of Average Attendance.	Amount of Fees received per Child of Average Attendance.
	£ s. d.	£ s. d.	£ s. d.
1880	4 16 7	5 12 2	0 15 7
1881	5 3 2	5 14 4	0 11 2
1882	6 4 10	6 16 1	0 11 3
1883	8 14 0	9 5 7	0 11 7
1884	7 10 9	8 2 8	0 11 11
1885	6 0 5	6 12 1	0 11 8
1886	5 12 0	6 4 0	0 12 0
1887	5 5 5	5 17 5	0 12 0
1888	4 14 0	5 6 5	0 12 5
1889	4 18 4	5 10 11	0 12 7

The number of free scholars during the year 1889 was 8,094 4,300 boys, and 3,794 girls, or 7·06 per cent. of the average attendance.

School savings banks.

In accordance with a design long contemplated, savings' banks were opened during 1887 in connection with the public schools of the Colony. During the past year Banks were established at 158 schools, and the deposits amounted to £13,764. Of this amount £7,652 was withdrawn for current use, and £6,112 remained to the credit of the depositors. The object aimed at in establishing these banks is to inculcate the principles of the science of economics, while yet the minds of the children are susceptible of deep impressions. A systematic training for this purpose is a thing to be desired in every public school, in order to engender habits of thrift amongst school children, to indoctrinate them as to the uses and effects of money, that are ulterior to immediate gratifications, and to make them recognize and calculate upon poverty and degradation as the natural results of waste and improvidence.

PRIVATE SCHOOLS.

Attendance increasing.

The attendance at private schools has increased more than two-fold since 1882. This is entirely due to the withdrawal of aid from denominational schools. At the close of the year mentioned there were 124 denominational schools under the control of the Education Department, with 346 teachers, and 29,651 scholars. Many of these schools ceased to exist immediately on the withdrawal of State aid, and the children by whom they were attended were transferred for the most part to the ordinary Public Schools of the Colony. Some of the schools, however, were still maintained, chiefly those connected with the Roman Catholic Church, and thenceforth appear in the returns as private schools. The increase in the number of private schools during 1883 was 97, and the increase in the attendance of children was 12,361, so that, at the lowest computation, 27 denominational schools were immediately closed, and 17,290 children transferred to Public Schools.

Increase in private schools.

The following table gives the particulars respecting private schools from 1881 to 1889 :—

Private Schools.

Year.	Schools.	Teachers.	Scholars.	Year.	Schools.	Teachers.	Scholars.
1881	507	1,129	18,317	1886	647	1,808	38,766
1882	491	1,154	19,746	1887	689	1,873	40,450
1883	588	1,473	32,107	1888	679	1·854	40,164
1884	611	1,601	33,607	1889	700	1·884	41,625
1885	611	1,654	35,967				

Dividing the private schools of the Colony into their respective classes, there were in operation during 1889 :—

	Schools.	Teachers.	Scholars.
Undenominational	377	744	10,090
Church of England	47	115	2,655
Roman Catholic	267	996	28,546
Wesleyan Methodist	3	12	89
Presbyterian	4	15	170
Lutheran	2	2	75
Total	700	1,884	41,625

Not a few of the schools returned as undenominational are religious schools, though no definite form of religious opinions is inculcated therein. Of distinctly religious schools, those of the Roman Catholic Church comprise the great majority, numbering 82·66 per cent. of professedly denominational schools, and 90·52 per cent. of the scholars educated therein. The number of pupils attending these schools was not ascertained for the years preceding 1886. On the withdrawal of State assistance from denominational schools in 1882 there were in operation under the Department of Education, 75 Roman Catholic Schools, attended by 16,595 pupils, while in 1889 there were 267 schools, attended by 28,546 pupils. There were, however, some Roman Catholic Schools prior to 1882 not receiving aid from the State, and, on the other hand, some of the schools which were closed in 1882 have not since been opened. The following are the figures for the three years, for which returns are available :—

Roman Catholic Schools.

Year.	Schools.	Teachers.	Scholars on Roll.			Average Attendance.		
			Males.	Females.	Total.	Males.	Females.	Total.
1886	215	896	11,222	13,798	25,020	9,533	11,766	21,279
1887	238	897	12,518	14,474	26,992	10,158	12,108	22,266
1888	247	916	12,535	14,637	27,172	10,010	11,799	21,809
1889	267	996	13,674	14,872	28,546	10,785	11,977	22,762

Church of England Schools.

The Church of England is the only other religious body maintaining schools of importance. During 1889 such schools numbered 47, and were attended by 2,655 pupils. At the end of 1882 there were in existence 42 Church of England Schools, frequented by 11,927 children. The following table shows the state of these schools during the past three years :—

Church of England Schools.

Year.	Schools.	Teachers.	Scholars on Roll.			Average Attendance.		
			Males.	Females.	Total.	Males.	Females.	Total.
1886	56	143	1,794	1,579	3,373	1,662	1,346	3,008
1887	73	167	1,815	1,514	3,329	1,588	1,258	2,846
1888	66	154	1,548	1,552	3,100	1,272	1,242	2,514
1889	47	115	1,353	1,302	2,655	1,065	999	2,064

HIGHER EDUCATION.

Curriculum of High Schools.

It has already been mentioned that the State has made provision for higher education, by the establishment of High Schools in the metropolis and the principal centres of population. The curriculum of these schools is of such a character as to enable students to complete the course of instruction, the basis of which they acquired in the Public Schools, and, if they so wish, to prepare themselves for the University examinations. Admission to these schools is by examination only. There were at the close of the year 1889 five High Schools for boys and girls, and the gross enrolment for that year was 386 boys and 388 girls, making a total of 774 children. The average attendance was rather less than that of the previous year. During the year, 77 pupils passed the junior, 16 the senior, and 13 the matriculation examinations at the University.

Superior Public Schools, in which the subjects taught embrace, in addition to the ordinary course prescribed for Public Schools, such other subjects as will enable the students to compete at the senior and junior public examinations, are also established. There were 57 of these schools in existence at the end of 1889, with an attendance of 43,369 pupils. They supply a want long felt in the community, and their number increases year by year.

STATE-AIDED EDUCATIONAL ESTABLISHMENTS.

In addition to the various classes of Public Schools maintained at the State's expense, and directly controlled by the officers of the Department of Public Instruction, there exist several institutions of an educational character which receive an annual subsidy from the Government. The most important of these is the Sydney Grammar School, which is one of the principal schools in the Colony. In 1889, the average quarterly enrolment was 421, and the daily attendance 399. The numbers of pupils who attended the University examinations were as follows:—Junior, 44, of whom 39 passed; Senior, 2, who both passed; and Matriculation, 19, of whom 18 passed. Towards maintaining this school the Colonial Treasury contributed the sum of £2,350, the school fees and other revenue amounting to £6,914.

The Institution for the Deaf and Dumb and the Blind, principally supported by private contributions, received a State grant of £450, and, in 1889, a sum of £5,459 in addition as school fees, contributions, &c. The total number on the roll during the year was 98, and of this number 55 were under, and 43 over, the age of 14 years.

THE UNIVERSITY.

Sydney College

In the year 1849 Mr. Wentworth presented a petition to the mixed Legislative Council from certain shareholders of a proprietary school, known as Sydney College, praying for the appointment of a select committee of the House "to consider the best means of carrying on the institution so as to afford the youth of the Colony the means of obtaining instruction in the higher branches of literature and science." The committee was appointed, but had, however, somewhat different instructions, and was directed to "consider and report how best to institute an university for the promotion of literature and science, to be endowed at the public expense." The committee, after a few weeks' deliberation, brought up its report, recommending the establishment of an university with a permanent endowment of £5,000 per annum out of the general revenue, and a Bill was brought in by Mr. Wentworth in accordance with the report. The Council was shortly afterwards prorogued, and the measure consequently lapsed for that session. In 1850 the bill, which was based mainly on the charter of University College, London, was reintroduced by Mr. Wentworth, and, after some discussion and a few amendments, was passed, receiving the Royal assent on 1st October of that year.

Constitution of the University.

The endowment was given for "defraying the stipends of teachers in literature, science, and art," and for administration purposes; there being no provision made for teaching any other branch. Power was, however, given to examine and to grant degrees after examination in law and medicine as well as in arts. The University was to be strictly undenominational, and the Act expressly prohibited any religious test for admission to studentship or to any office, or for participation in any of its advantages or privileges. Residence was not contemplated otherwise than in affiliated colleges, but authority was given to license tutors and masters of boarding-houses with whom students of the University might live.

A Senate of sixteen Fellows was constituted by the original Act to govern the University, and they were empowered to elect from among themselves their own Provost and Vice-Provost, which titles were later on changed to those of Chancellor and Vice-Chancellor. The Fellows were, in the first instance, nominated by the Crown, but were to be replaced, as vacancies arose, by the Fellows themselves until there should be 100 graduates holding the degrees of Master in Arts, or Doctors in Law or Medicine. The first Senate commenced their labours at the close of the year 1850, with Mr. Edward Hamilton, M.A., as Provost, and Sir Charles Nicholson, M.D., as Vice-Provost. They shortly established three chairs in Classics, Mathematics, and Chemistry and Experimental Physics, and sent to England for competent professors to fill them; and on the 11th October, 1852, the University was opened with an imposing ceremony, in presence of the Governor and principal officers, and under the presidency of Sir Charles Nicholson, and twenty-four matriculated students were admitted to membership.

In 1858 a royal charter was granted, which declares that "the degrees of this University in arts, law, and medicine shall be recognized as academical distinctions of merit, and be entitled to rank, precedence, and consideration in the United Kingdom as fully as if the said degrees had been granted in any university of the United Kingdom."

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Since the passing of the original Act various changes have been made by amending Acts, of which the principal are as follows :—By an Act passed in 1857, those who had taken the degree of B.A. or M.A. received certain privileges in respect of admission to the Bar or to the Roll of Solicitors. In 1861 it was directed that in addition to the ordinary sixteen Fellows there should be not fewer than three nor more than six *ex officio* members of the Senate who should be Professors in such branches of learning as the Senate should by any by-law select; and such Professors and other Public Teachers and examiners and every superior officer declared to be such by the by-laws should be a member of the University, with the same rights and privileges as to the election of new Fellows as persons holding the degrees of M.A., LL.D., and M.D. In 1881 *Ad eundem* degrees, with equal privileges, were authorized to be conferred; and B.A.'s of three years standing were empowered to vote at new elections of Fellows. In 1884 the Senate's powers as regards teaching and degrees were extended by enabling it to give instruction and grant degrees or certificates in all branches of knowledge with the exception of Theology or Divinity, subject to a proviso that no student should be compelled to attend lectures or to pass examinations in Ethics, Metaphysics, or Modern History; and by the same Act it was directed, in accordance with a previous by-law of the Senate, that the benefits and advantages of the University should extend in all respects to women equally with men.

Convocation.

The number of persons entitled to vote at the elections of new Fellows reached 100 in 1872, whereupon the Senate passed by-laws in respect of such elections, and styled the electoral body "Convocation." This body, including the additions made by the several amending Acts, and comprising heads of affiliated colleges, who had been declared to be superior officers of the University under the Act of 1861, now numbers nearly 500.

Endowment of the University.

The public endowment of the University stood at £5,000 a year until 1880, when £1,000 was added for assistant lectureships, but in 1877 a bequest of the value of £6,000, and producing about £300 a year, was made by Mrs. Hovell, widow of the explorer of that name, for instruction in Geology and Physical Geography, which, together with fees, enabled the Senate to divide the Chair of Chemistry and Experimental Physics into two, to the first of which Geology and Physical Geography were attached. In 1882 a further vote of £5,000 was made to enable the Senate to establish Schools of Medicine and Engineer-

Medicine and engineering.

ing, and to give some further help to the original Department of Arts. Medical and Engineering Professors and Lecturers, and a Professor of Natural History, and some small lectureships in Arts were created; but this sum was soon found inadequate for the intended purposes, and has been increased to £7,900, inclusive of the £1,000 granted in 1880. Allowances have also been made for apparatus, and a sum of £2,000 per annum has been granted for Evening Classes in Arts. Principally out of this endowment a system of Extension Lectures to non-matriculants was commenced in 1882, first in the metropolis, but spreading to places at a distance; and it is not improbable that as time goes on and means increase these lectures may become a very prominent feature in the action and influence of the University.

In 1855 the present site was granted by Governor Sir Charles Fitzroy, by Royal authority, for the erection of suitable buildings, and also to provide land for the prospective erection of four denominational Colleges. Before this grant was made the work of the University had been carried on in the old Sydney College, which, together with its library and even an endowment for a Scholarship bequeathed by Mr. Solomon Levy, was purchased by the Government for the University, and a grant of £50,000 had been made by Parliament in 1853 as a building fund. The present site, granted in 1855, comprises about 126 acres, formerly known as Grose Farm, to which a further grant of 9 acres was afterwards added for the enlargement of the domain or park. As early as 1854 an Act was passed to aid and partly endow four colleges within the University. Contributions of not less than £10,000, and not more than £20,000, were to be made from the general revenue for building funds, provided that an equal sum were subscribed by private individuals, and £500 a year was to be paid annually by the Government towards the stipends of Principals for each College. Just before this, steps had been taken to establish a Church of England College, St. Paul's; and St. John's Roman Catholic College followed in 1857, and

Grose Farm granted to the University.

Affiliated Colleges.

the Presbyterian College of St. Andrew's in 1867. The Wesleyan body, for whom an equal area had been set apart, declined to accept it, and in 1873 some 12 acres of the land originally intended for a site for their college, was resumed by the Crown and dedicated to the Prince Alfred Hospital; and provision was made for the establishment by the University of a Medical School in connection with it and for the joint control of the University Senate and Hospital Board in respect of all appointments of the medical and surgical officers of the Hospital. But while the regulations under which students have access to the Hospital are framed by the Hospital Board, with the Senate alone rests the appointment of Professors and Lecturers in the Medical School.

Public Examinations.

The system of Public Examinations, similar in general character and purpose to the middle class examinations of Oxford and Cambridge, was instituted in 1867, and has gradually spread, till last year there were no less than forty-five local centres other than Sydney, six of which were in the Colony of Queensland; and at the examination held in September of that year there were 1,200 candidates. Of these, 115 presented themselves for the senior, and 1,085 for the junior, examination. 90 senior and 706 junior candidates passed successfully. The University also initiated examinations of articled clerks in 1877, in compliance with a rule of the Supreme Court, and an examination of candidates for appointment in the Civil Service from an earlier date.

Benefactions.

Many donations have been made to the University for the use and reward of students. Among the first was a gift of £1,000 each from Mr. Thomas Barker and from Sir Edward Deas-Thomson, represented by lands which are now of twice that value. Many others followed, and about £42,000 has been presented up to the present date, exclusive of prizes, which have been exhausted by award, and irrespective of increases in value. About £10,000 of this is still in suspense on account of intervening life estates to the widows of testators. Besides the above, a sum of £30,000 was left by the late Mr. Thomas Fisher for a library, and £6,000 has been given by the Hon. Sir William Macleay for a Curatorship of the Natural History Museum, presented by him to the University, and for which the Government have erected a suitable building. There have also been bequests of property other than money to the estimated value of £51,000 up to the present time.

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Above all, the late Mr. John Henry Challis left his residuary estate, which was expected to reach £250,000 at the expiration of a term of accumulation imposed by the trustees, and now just completed, but subject to certain annuities. Under this bequest an income of £7,200 a year commenced early in 1890, and the Senate have created new Chairs in Law, Modern Literature, History, Logic and Mental Philosophy, Anatomy, Engineering, and Biology, to which they have given the testator's name. The Hovell and Challis bequests constitute the only resources of the University for actual education other than the public endowments.

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The teaching-staff, when all the Challis Chairs are filled, will consist of thirteen Professors, seventeen Lecturers, of whom four are Evening Lecturers, and four Demonstrators. The subjects over which Professors preside are Classics, Mathematics, Chemistry and Mineralogy, Physics, Geology and Palæontology, Physiology, Anatomy, Engineering, Modern Literature, Logic, and Mental Philosophy, Biology, Law, and History. The Lecturers deal with Geology and Physical Geography, Classics, Modern Literature, Mathematics, Architecture, Principles and Practice of Medicine, Principles and Practice of Surgery, Midwifery and Diseases of Women, Materia Medica and Therapeutics, Pathology, Medical Jurisprudence and Public Health, Clinical Medicine, Clinical Surgery, Psychological Medicine, Ophthalmic Medicine and Surgery, Medical Tutor, Law of Real Property and Equity, Law of Procedure, including Evidence, Law of Wrongs, Civil and Criminal, and Law of Obligations. The Demonstrators are appointed in Chemistry, Physiology, Anatomy, and Physics.

Since its foundation the University of Sydney has conferred 789 degrees of various kinds, the highest number bestowed in any one year being 56, in 1889. The number of students attending lectures increased from 61 in 1877 to 275 matriculated and 327 non-matriculated students in 1889, whilst the number of candidates who attended the public examinations has increased both in the senior and junior divisions, the former having advanced from 63 in 1877 to 115 in 1889, and the latter from 303 to 1,085.

Result of examinations.

Corresponding increases in the number of successful candidates at the public examinations have also taken place, as the following table will show :—

Number of Students, and Results of Examinations.

Year.	Number of students qualified for matriculation	Number of students attending lectures.		Public Examinations.			
		Matriculated.	Non-matriculated	Number of seniors who came up.	Number of juniors who came up.	Number of seniors who passed.	Number of juniors who passed.
1876	34	58	...	53	356	40	212
1877	23	61	...	63	303	38	135
1878	24	62	...	58	364	41	243
1879	58	83	...	76	333	64	247
1880	64	76	...	66	381	54	209
1881	80	81	...	48	392	36	231
1882	101	97	...	57	398	43	240
1883	85	128	...	57	473	36	299
1884	142	203	...	65	563	48	379
1885	115	203	...	84	645	73	440
1886	122	203	137	107	858	83	548
1887	132	215	329	125	834	87	562
1888	130	250	403	141	834	110	538
1889	210	275	327	115	1,085	90	706

Revenue of University.

The expenditure of the University prior to 1890 was met out of the revenue accruing from students' fees, the Government aid, and sundry private sources, irrespectively of income for the express use or reward of students. The following table will show the yearly state of the finances of the University during the period from 1876 to 1889 :—

Expenditure of University.

Receipts and Expenditure of the University of Sydney.

Year.	Receipts.					Expenditure.
	Government aid.		Lecture fees.	Other sources.	Total.	
	Endowment.	Grants for apparatus or other special purposes.				
	£	£	£	£	£	£
1876	5,000	....	403	100	5,503	5,877
1877	5,000	....	334	100	5,434	5,434
1878	5,000	1,168	324	100	6,592	7,748
1879	5,000	114	476	100	5,690	5,746
1880	5,000	1,500	457	100	7,057	6,795
1881	5,000	1,000	706	100	6,806	6,227
1882	10,000	2,964	1,080	100	14,144	10,614
1883	12,000	2,343	1,266	120	15,729	15,381
1884	12,000	3,500	2,207	170	17,877	16,198
1885	12,000	4,500	2,479	385	19,364	20,094
1886	12,000	5,500	2,600	323	20,423	20,765
1887	12,000	4,918	2,819	308	20,045	20,811
1888	12,000	7,099	3,022	385	22,506	21,867
1889	12,000	6,800	5,667	807	25,274	28,030

School of Medicine.

University laboratory.

An extensive addition to the University's magnificent buildings has been made for the use of the School of Medicine. It provides the most complete accommodation for students desiring to follow the profession of medicine and surgery, and the Prince Alfred Hospital, erected, as before stated, on the University grant, affords them the necessary means of study. At the commencement of the year 1889 there were 65 undergraduates, of whom some were ladies, in the Medical School, a very fair number considering that this school was not established until 1883, and then commenced with only four students. A laboratory for the Department of Physics has also been recently erected, and is replete with every means of illustrating the teaching of physical science, and an equally complete laboratory and halls are in course of construction for the

Department of Chemistry and its adjuncts. The prospects of the University of Sydney are excellent, and it cannot fail to prosper, and exert a most beneficial influence on the future of Australia. An Act for founding an Affiliated College for Women has been passed, limiting the building endowment, however, to £5,000, but granting £500 a year for a Principal. It will be brought into operation as soon as the necessary funds are collected.

DENOMINATIONAL HIGH SCHOOLS AND COLLEGES.

Denominational Colleges.

All the principal religious bodies provide high schools and colleges where students may be educated according to the precepts of their various beliefs and prepared to compete for University honors, or the various professions which they may adopt. Evidence of the progress of superior denominational education in the Colony may be seen in the magnificent college buildings which surround the city, among which may be cited Newington College, the colleges of the Marist Brothers, and the Jesuit Fathers, at Hunter's Hill and Riverview, the old-established King's School at Parramatta, and a host of other first-class establishments erected under the patronage of the various religious bodies.

TECHNICAL EDUCATION.

Necessity for technical knowledge.

Public attention was so strongly directed in the years which followed the great world exhibition of 1851, to the necessity of providing the artizan classes, and the people generally, with the means of obtaining a scientific knowledge of the various handicrafts, that technical schools sprang up in various parts of England, some being under the direct patronage of the State, while others were founded by the wealthy trade societies, or guilds, of the great English cities. The excellent results following the establishment of these schools could not fail to attract attention in the colonies, where a sound and practical knowledge of the manual arts is of paramount necessity. The foundation of the New South Wales Technical School was due in great measure to the efforts of a few gentlemen connected with the Sydney Mechanics'

Foundation of Technical College.

School of Arts, and as far back as 1873 it was decided to establish a Technical College affiliated to that institution, with the object of improving the scientific knowledge of Australian artizans. In the year 1878, a sum of £2,000 was granted by Parliament towards the organization of a Technical College, and for five years the work of the institution was carried on in connection with the School of Arts. In 1883, however, a board was appointed by the Government to take over its management, and the Technical College became thenceforth a State institution. Towards the end of 1889 the Board was dissolved, and the Technical College came under the direct control of the Minister of Public Instruction.

Curriculum.

The course of instruction, under the present constitution of the Technical College, comprises classes in agriculture, applied mechanics, arts, architecture, geology, chemistry, commercial economy, mathematics, elocution, pharmacy, physics, and domestic economy, and these classes are subdivided into sub-classes as may be warranted by circumstances.

Number of students.

The college is open to students of each sex and, during 1889, about 446 female students attended for at least one term. The number of individual students in 1889 averaged 2,719 persons. The average daily attendance was 1,194.

Country classes.

Branch technical schools have also been established in the suburbs, and in the northern, southern, and western districts of the Colony. In 1889 these country classes had an average of 840 students enrolled, with an average attendance of 371.

Technical workshops.

Technical workshops have been fitted up in Sydney, where mechanical classes are held, and the teaching is illustrated by all the various tools and apparatus needed for the proper understanding of the different processes of each separate class of work. The Technical College is now fairly established, and its benefits are already being felt and appreciated, whilst the future has every promise of still greater usefulness. A site for the College has been secured by the Government at Ultimo, on which it is proposed to erect a building suitable for its requirements.

Cost of technical education.

In 1889 the expenditure of the Board of Technical Education amounted to £17,500 received from the State, and £1,988 from pupils, in all £19,488. The means at the disposal of the board have not been sufficient for the establishment of country branches in every case where application has been made, but lecturers have been appointed to visit from time to time the principal country centres, and deliver lectures in mineralogy, geology, and agriculture. Proposals have also been made for the granting by the State of suitable areas, or reserves, for the purpose of establishing agricultural colleges and experimental farms, and the near future may see an extension of technical education in this direction.

REFORMATORIES.

Industrial Schools.

In addition to the purely educational establishments, the State maintains three reformatories or disciplinary institutions, two for girls—the Industrial School at Parramatta, and the Shaftesbury Reformatory, near South Head—and one for boys—the nautical school-ship Vernon. At the Parramatta institution the total enrolment of girls during the year was 169, and the new admissions, up to the 31st December last were 76, of whom 32 were under and 44 over 14 years of age. The cost of maintaining the school in 1889 amounted to £2,518. The Shaftesbury Reformatory is under the Minister of Justice. It has been in existence over eleven years, and is designed for the reception of young women under sentence, a wise provision, for by this means are avoided the alternatives of sending the offenders to the institution at Parramatta (late at Biloela), where their influence and example might have a baneful effect on more youthful minds, or of consigning them to gaol. The want of a similar institution for criminal youths is much felt. It would indeed prove a boon in many cases, not only to the individuals themselves but to society at large, and might often be the turning point in a career just started on a downward course. The number of inmates at Shaftesbury at the close of 1889 was 42, and the expenditure during the year amounted to £887. On board the

The "Vernon" Training Ship.

"Vernon" 413 boys were dealt with during the year, and the number remaining at the termination of 1889 was 227. Up to the 30th April, 1890, there had been 2,367 boys admitted on board, of whom 2,134 had left. During 1889 28 of the latter had been under conviction, or a percentage of 1·3 for the year, as against a percentage of 1·8, which is the proportion of convictions if the whole male population over 15 years of age be taken. There were at the date just mentioned 480 apprentices from the "Vernon," who remained still under its supervision, in addition to the number on board. The management of the training-ship is excellent, and its cost to the State during 1889 was £5,880. The results obtained in the three above-mentioned establishments have hitherto been of a very successful character, many children having been reclaimed from a depraved life, or rescued from unhappy surroundings, and turned out, after a course of some years' training, useful members of society.

SCIENTIFIC SOCIETIES.

In a young country such as New South Wales, where most of the people are engaged in the development of its material resources, the existence of a leisured class, or one devoted to the pursuit of science, is hardly to be looked for. Nevertheless it is satisfactory to find that the higher aims of science are far from being neglected. As far back as the year 1821, a scientific society under the title of the Philosophical Society of Australasia was founded in Sydney, which, after experiencing many vicissitudes of fortune, was transformed in 1866 into, and afterwards incorporated under the title of, the Royal Society of New South Wales. The society is now in a flourishing condition, counting amongst its members some of the most eminent men in the Colony. Its object is to forward the advancement of science in Australia, and favour original research in all subjects of scientific, artistic, and philosophical interest, which may further the development of the resources of Australia, draw attention to its productions, or illustrate its natural history. The proceedings, published every year, include papers of the

Royal Society.

greatest interest on important scientific questions, especially those whose solution is of Australian interest.

Linnæan Society.

The study of the botany and natural history of Australia has attracted many enthusiastic students, and the Linnæan Society of New South Wales was also established for the special purpose of furthering the advancement of these particular sciences. The society is housed in a commodious building at Elizabeth Bay, one of the most beautiful spots near the city, and already possesses a library and museum. The society has been liberally endowed by the Hon. William Macleay, who, not content with being one of its most munificent supporters, is also an indefatigable worker in the field of science. The society's proceedings are published at regular intervals, and contain many valuable papers, together with excellent illustrations of objects of natural history.

Geographical Society.

In 1883 a third scientific society was formed in Sydney under the name of the Geographical Society of Australasia, with the view of promoting geographical research in a part of the world where much remains to be discovered. Branches of this society have been established in the cities of Melbourne, Brisbane, and Adelaide, and there is no lack of interest displayed in their proceedings. Among the first tasks undertaken by this Society was the despatch of an expedition to New Guinea, for which purpose aid was obtained from the various Colonial Governments. The expedition sailed from Sydney on the 10th June, 1885, and resulted in the acquisition of some useful geographical and scientific knowledge of the island, the discovery of a large affluent of the Fly River being, perhaps, the most important achievement of the expedition.

Aid received by scientific societies.

The scientific societies just mentioned depend for support on private contributions, though, except in the case of the Linnæan Society, the Government grants them small sums annually in proportion to the income received from subscriptions, and has hitherto allowed their "Proceedings and Transactions" to be printed free of charge at the Government Printing Office.

Sydney Observatory.

Among the other institutions of a scientific and educational character which the Colony so liberally supports the Sydney Observatory is not the least important. Situated in a commanding position, it is admirably fitted for the purpose it is intended to serve. The present building was erected in 1856 at the instance of Sir William Denison, then Governor of the Colony, who took a great interest in scientific pursuits. The Government Astronomer has under him a complete staff of assistants, and during the year 1889 a sum of £4,197 was expended in connection with the institution. Meteorological observations have received special attention, as befits so important a subject in a country whose prosperity depends so much upon climate. When the present Astronomer took office in 1870, there were in the Colony only six stations, and observations on the climate, rainfall, and other meteorological phenomena were necessarily very limited in character. At the end of 1889 the number of stations had been increased to 1,017. Rain gauges have also been established at most of the sheep and cattle stations of the interior, with a result which is highly satisfactory. The light thrown on the true characteristics of the climate, especially of that part of the Colony remote from the sea coast, has tended to remove the notion long current as to its unfitness for agricultural as well as pastoral settlement.

Australian Museum.

The Australian Museum, which is the oldest institution of the kind in Australia, occupies a conspicuous site in the centre of Sydney, facing one of the principal parks. The collections contain carefully selected specimens of the principal objects of natural history found in kindred establishments, and also a most complete collection of zoological specimens of distinctly Australian character. The popularity of the institution is evinced by the increasing number of persons by whom it is visited. The Museum is open to the public every day except Monday. On Sundays the visitors are very numerous. The number of visitors during 1889 was 138,410, the daily average being 876 on Sundays, and 261 on week days. The expenses in connection with the institution amounted to £7,661, of which £1,688 was expended on account of purchase, collection, and carriage of specimens.

Free Public Library.

The Free Public Library was established on the 1st of October, 1869, when the building and books of the Australian Subscription Library were purchased by the Government. The books thus acquired formed the nucleus of the present library. The number of volumes originally purchased was about 16,000, and on the 31st December, 1889, they had increased to 81,631, including those in the lending branch, or lent to country libraries. The lending branch was established in 1877, to meet a growing public want, and, under the present system any person may, on the recommendation of a clergyman, magistrate, or other responsible person, obtain under certain simple regulations, the loan of any of the works on the shelves, free of charge. The scope of this institution was further extended by the introduction of a system by which country libraries and Mechanics' Institutes may obtain on loan works of a select kind, which in many instances would be too expensive for them to purchase on account of the slender funds at their disposal. Under this system, boxes are made up containing from 60 to 100 books, and forwarded to the country libraries on application, to be returned, or exchanged within four months. This system was initiated in August, 1883, and has been carried on successfully ever since. In the course of 1889, 95 boxes, containing 7,119 volumes, were forwarded to 68 institutions, some of them at considerable distances from the metropolis. The distance which these books were carried amounted to 36,905 miles, being on an average 388 miles for each box, an enormous distance, partly accounted for by the fact that some places to which books are sent were most readily accessible through other colonies. All the charges in connection with the despatch and return of books, insurance, &c., are defrayed by the State, and the system in vogue in New South Wales is the most liberal of its kind in existence.

Loan of books to country libraries.

Reference Library.

The reference department of the Free Public Library contains 58,094 volumes, and the lending branch 19,546. The country libraries were, on the 31st December, 1889, in possession of 3,991 volumes, lent under the system above mentioned, the total number of books and pamphlets, the property of this institution, being 81,631, classified as under :—

Synopsis of Classification.	Reference Department	Lending Branch.	Country Libraries.	Total.
Natural Philosophy, Science and the Arts	6,510	3,115	743	10,368
History, Chronology, Antiquities, and Mythology	5,466	2,662	910	9,038
Biography and Correspondence	3,895	3,221	1,042	8,158
Geography, Topography, Voyages and Travels, &c.	5,590	2,994	717	9,301
Periodical and Serial Literature	15,574	......	......	15,574
Jurisprudence	2,748	723	65	3,536
Theology, Moral and Mental Philosophy, and Education	3,374	1,181	99	4,654
Poetry and drama	1,973	682	89	2,744
Miscellaneous Literature and Collected Works	4,494	*4,370	326	9,190
Works of Reference and Philology	4,022	......	......	4,022
Patents	......	......	......	......
Duplicates and unbound volumes	1,446	......	......	1,446
Pamphlets	3,002	......	......	3,002
Books for the Blind	......	598	......	598
Total Number of Volumes	58,094	19,546	3,991	81,631

* Including 1,881 volumes of Fiction.

Popularity of Library.

The popularity of the Free Public Library is clearly proved by the number of persons availing themselves of the privileges which it affords. The increase has been very regular, as will be seen in the following statement showing the number of visitors to the library, rising from 59,786, in 1870, to 132,983, in 1889, 54,271 of whom were visitors at the lending branch. These figures as well as those for the two previous years are less than those given for 1886, which is accounted for by the fact of the reference branch having been somewhat cramped pending the construction of the additions to the building, and also to the withdrawal of a number of works of fiction from the lending branch.

Attendance of visitors.

1870	59,786
1871	60,165
1872	48,817
1873	76,659
1874 (eleven months)	57,962
1875	66,900
1876	72,724
1877 (Lending Branch first opened)	124,688*
1878	117,047
1879 (Exhibition open)	152,036
1880	134,462
1881	136,272
1882 (eleven months)	133,731
1883	155,431
1884 (eleven months)	161,877
1885	165,715
1886	168,685
1887	139,203*
1888	149,425
1889	132,983

*Reference Library closed for three months, for moving.

Number of readers.

Although the lending branch contains but 19,546 volumes, the total number used during the year was not less than 68,300, and the number of persons availing themselves of the privilege of borrowing was 4,822, so that on an average each book was taken out from three to four times, and each person to whom a permit was granted used fourteen volumes during the year. As usual, a large portion of the work read was from fiction, each of the 1,881 novels in the branch having been used about nine times during the year. The number of volumes of each class taken out was as follows :—

Classification of Books used.	No. of volumes used.
Natural Philosophy, Science, and Arts	8,150
History, Chronology, Antiquities, and Mythology	7,303
Biography and Correspondence	7,954
Geography, Travels, &c.	10,099
Jurisprudence	1,454
Mental and Moral Philosophy	2,538
Poetry and Drama	2,077
Miscellaneous Literature	11,862
Prose Fiction	16,863
Total	68,300

During 1886 and 1887 considerable extensions were made to the premises of the Free Public Library, which had become much too small for the accommodation of the public, and the proper housing of the books. It was at length decided to pull down the old building in Macquarie-street, and a contract was made about the middle of 1887 for rebuilding a large portion of the Library at a cost of £10,455. This work was progressing throughout the year 1889, and the new building was opened to the public in April of the present year. The institution is now one of the most convenient in Australia.

Cost of maintaining library

The institution forms a separate department, under the control of the Minister of Public Instruction, and its cost to the State, during 1889, was, in addition to the amount for building—

Salaries, &c.	£4,999
Buildings and Repairs	6,409
Books	3,007
Total	£14,415

Schools of Art and Municipal Libraries.

Besides the Free Public Library of Sydney there are smaller libraries established in the principal population centres throughout the Colony. Returns have been received from 198 libraries, nearly all of which are in receipt of assistance from the State. These libraries may be broadly classed under two heads—Schools of Arts—receiving an annual subvention in proportion to the amount of monetary support accorded by the public; and Free Libraries established in connection with Municipalities. The former class are far the more numerous. Under the provisions of the Municipalities Act of 1867 any municipality may establish and maintain a Free Library, and, where such is done, the Council of the Municipality is entitled, for the purchase of books, the sum of £200 if the library is available for the use of a population of 1,000 or to £100 where the population to whom the library would be accessible reaches 300 persons. The number of volumes in the various public libraries, excluding the Free Public Library, is about 240,000. The cost of erecting buildings was

£218,229, the ground in most cases having been granted by the State without charge. During 1889 the total income of these institutions was £33,519, of which sum the Government contributed £16,018.

National Art Gallery.

The National Art Gallery was first instituted in 1871 in connection with the New South Wales Academy of Art. It was reöpened as the National Art Gallery in 1880, and is now situated in the Outer Domain, in a convenient and well-lighted building, which is at present unfinished as regards the exterior, although steps are about to be taken to complete the design. It contains an excellent collection of paintings and statuary, comprising some of the most famous works of the best modern artists of the old world, and includes several very valuable gifts from private persons. Like the other national institutions of New South Wales, the Gallery is open on Sundays as well as week-days, and on the former and on public holidays the attendance is especially numerous. During 1889 it was visited by 249,699 persons, the average Sunday attendance being 1,935 and on week days 480. Up to the end of 1889 the total expenditure on this institution was £72,110. The disbursements for 1889 were:—

	£
For works of art	6,073
For maintenance	1,209
For salaries	925
Total cost to the State	£8,207

Technological Museum.

The Technological Museum is also situated in the Outer Domain, in the Agricultural Hall, where it was removed on the destruction of the Garden Palace by fire. It is intended eventually to remove it to the building at Ultimo, which is to be erected for the Technical College. This museum was instituted at the close of 1879 on the initiative of the Trustees of the Australian Museum; but the whole collection of some 9,000 specimens was totally lost in 1882 by the fire above-mentioned. Strenuous efforts were at once made to replace the lost collection, and in December, 1883, the museum was again opened to the public, and now contains interesting and valuable series of specimens illustrating the various stages of many manufactures, and an excellent collection of animal and vegetable products. The popularity of this institution may be gathered from the fact that 34,202 persons visited it during 1889, the Sunday average being 208, and the week day 74. The cost to the State amounted to £3,399, distributed as follows:—

	£
For maintenance	1,267
For specimens, models, &c.	1,143
For salaries	989
Total	£3,399

RELIGION.

Equality of all religions.

In the eyes of the State all religions are equal in New South Wales, but during the early days of the Colony such was not the case. New South Wales was originally essentially a Crown Colony, and the Church establishment, as it existed in England, was naturally transplanted to these shores. Ecclesiastical monopoly nevertheless only continued for a short time, and the countenance and support of the State were eventually extended, during the governorship of Sir Richard Bourke, to the principal religious bodies which then existed—the Anglicans, Roman Catholics, Presbyterians, and Wesleyan Methodists. To the clergy of each of these denominations the Government granted what has usually been denominated State aid, which continued long after the old political system had passed away and had been replaced by Responsible Government. In 1862, however, an Act was passed limiting future payments to the clergy then actually in receipt of State aid. In the year following the passing of this Act the claims on the Government amounted to £32,372, and were thus distributed:—

State aid to religion.

Church of England	£17,967
Roman Catholic Church	8,748
Presbyterians	2,873
Wesleyan Methodists	2,784

Year by year the sum payable has been lessening, owing chiefly to the deaths of clergymen in receipt of State aid, so that in 1889 the payment by the State was £9,992, distributed as follows:—

Church of England	£5,790
Roman Catholic Church	2,600
Presbyterians	702
Wesleyan Methodists	900

Payments on account of State aid.

The payments to the clergy of different denominations are given for each year since 1863. It will be observed that in several years the amounts paid were less than in succeeding years. This anomaly is due to the temporary stoppage of the stipends of clergymen who were absent from the Colony:—

Amounts paid to the Clergy since the Abolition of State Aid to Religion.

Year.	Church of England.	Roman Catholic Church.	Presbyterian.	Wesleyan Methodist.	Total—All denominations.
	£	£	£	£	£
1863	17,967	8.748	2,873	2,784	32,372
1864	17,519	8,234	2,614	1,179	29,546
1865	14,111	7,430	3,090	1,572	26,203
1866	13,977	7,446	2,852	1,572	25,847
1867	13,255	7,275	2,852	1,572	24,954
1868	12,767	7,083	2,847	1,965	24,662
1869	12,370	6,796	2,487	1,573	23,226
1870	12,386	6,583	2,180	1,573	22,722
1871	10,994	6,416	1,942	1,573	20,925
1872	12,187	6,034	1,822	1,484	21,527
1873	11,237	5,804	1,702	1,372	20,115
1874	11,224	5,963	1,560	1,372	20,119
1875	10,725	5,608	1,626	1,372	19,331
1876	10,213	5,300	1,778	1,029	18,320
1877	9,803	5,024	1,702	1,716	18,245
1878	9,180	4,550	1,702	1,029	16,461
1879	8,238	4,357	1,702	1,372	15,689
1880	7,739	3,892	1,702	1,716	15,049
1881	7,412	3,729	1,689	992	13,822
1882	6,558	3,487	1,636	1,455	13,136
1883	6,082	3,246	1,407	1,324	12,059
1884	5,975	3,025	1,177	1,222	11,399
1885	6,041	3,000	1,052	1,136	11,229
1886	5,790	3,000	902	1,050	10,742
1887	5,790	2,800	702	900	10,192
1888	5,790	2,600	702	900	9,992
1889	5,790	2,600	702	900	9,992

The number of persons entitled to State aid during 1889 was 59—33 Church of England, 15 Roman Catholics, 5 Presbyterians, and 6 Wesleyan Methodists.

Adherents of each religion.

The number of members of each religious body was estimated at the census of 1881, and the relative proportions of each of the larger denominations were found to differ but slightly from those shown by the previous census. Distributing the population on the basis of the census of 1881, the estimated number of adherents to each of the denominations, with the clergy registered for the celebration of marriages, was during 1889 as follows :—

Denomination.	Clergy.	Adherents.	Proportion of adherents to clergy.
Church of England	318	510,600	1,606
Roman Catholic	280	310,066	1,107
Presbyterian	156	108,404	695
Wesleyan, and other Methodist	167	96,285	576
Congregational	59	21,434	363
Baptist	34	10,997	323
Lutheran	4	7,294	1,823
Unitarian	1	1,347	1,347
Hebrew	3	4,938	1,646
Salvation Army	5	*4,152	830
Others	22	46,683	2,122
Total	1,049	1,122,200	1,070

* Soldiers.

Church attendance.

The number of persons attending Divine Service on Sundays averaged 312,221 for the year 1889. This number represents the attendance of adults only ; if school children were included the number would be 428,895 or about 48 per cent. of the persons over seven years of age. When the sparseness of the population in some parts of the country is considered, the church attendance will appear very large, and though apparently less than found in the colony of Victoria, is proportionately much greater than in England.

The figures showing the attendance at Divine Service on Sundays for each of the principal denominations are given hereunder. Sunday school children are not included :—

Denomination.	Number of distinct persons attending Sunday services.
Church of England	83,819
Roman Catholic	94,422
Presbyterian	33,247
Wesleyan Methodist	56,229
Other Methodists	8,681
Congregationalist	13,669
Baptist	4,925
Salvation Army	*14,423
Other denominations	2,806
Total	312,221

* So returned by the officers of the Salvation Army.

Church of England.

The Church of England is the largest religious denomination in the Colony, whether judged by the number of professed adherents, the number of clergy, or the number of buildings used for divine service. During the year 1889 there were 626 churches belonging to this denomination and 137 school-houses and 730 public buildings and dwellings used for public worship, accommodating 120,380 persons; the attendance of distinct persons counting only adults was 83,819. The number of clergy registered under Acts 19 Vic. No. 30 and 34 of the celebration for marriages was 318. The Church of England in the colony is governed by a metropolitan who is also primate of Australia and Tasmania, and five other Bishops whose sees are Bathurst, Goulburn, Newcastle, Grafton and Armidale, and Riverina.

Roman Catholic Church.

The Roman Catholic Church is presided over by the Cardinal Archbishop of Sydney, assisted by a Coadjutor Bishop under whom are the suffragan bishops of Bathurst, Goulburn, Grafton, Maitland, Armidale, and Wilcannia, the whole colony forming an ecclesiastical province. There are 280 priests licensed to celebrate marriages. The number of Roman Catholic Churches properly so called was 417; besides these there were 48 school-houses and 791 public buildings or dwellings used for Divine Service. The accommodation afforded by the churches amounted to about 111,573 sittings and the attendance on Sundays averaged 94,422.

Presbyterian Church.

The various branches of the Presbyterian Church in the colony have 306 churches and 54 schools used for public worship; there were also 422 public buildings or dwellings occasionally used for the same purpose in 1889. The number of ministers was 156, of whom 142 were connected with the Presbyterian Church of New South Wales, 13 with the Synod of Eastern Australia, and 1 with the Presbyterian Church of Scotland. The accommodation provided in churches was 58,989 sittings and the attendance numbered about 33,217, not including Sunday-school children.

Wesleyan Methodists.

The Wesleyan Methodist communion is divided into eight districts. Throughout the colony there are 381 churches and 466 other preaching places with sittings, in the former to the number of 57,989, and in the latter 23,275, in all 81,264. The denomination owns also 59 school buildings and 74 parsonages and has in its service 138 regular clergy and 452 local preachers. The number of church members is said to be 7,699, of whom 1,064 are communicants, and the attendance of adherents at Divine Service is not less than 56,229, not including children.

The Primitive Methodists and United Methodists have 83 churches, and 34 other buildings, and 29 clergy; the accommodation provided will seat 14,860 persons, the attendance at Divine Service is about 8,680.

The Congregational Church has 61 churches as well as 46 public buildings or dwellings used for worship; the sittings provided will accommodate 21,443 persons. The clergy licensed to celebrate marriages number 59 and the attendance at Divine Service on Sundays averages about 13,670.

Congregationalists.

The various Baptist Churches in the colony have 34 licensed ministers with 35 churches and 37 school-houses or other buildings devoted to public worship; the Sunday attendance averages 4,925 persons, but there is sitting accommodation for 10,137.

Baptists.

The Salvation Army has only 5 officers licensed to celebrate marriages, but has 199 buildings used for service, accommodating 33,610 persons. The number of adherents or soldiers attending Sunday service is stated by the authorities to be 14,423.

Salvation Army.

Besides those above enumerated there are other distinct religious bodies, for the most part Protestant denominations, with clergy licensed by the State to celebrate marriages. The number of clergy ministering to these was 30; the churches, school-houses, and public buildings used for Divine Service numbered 80 and the attendance on Sundays was about 2,806 persons.

Other Denominations.

The number of registered ministers belonging to all faiths was 1,049, and the churches numbered 2,027, in addition to which there were 362 school-houses and 2,564 dwellings or public buildings used for public worship. The accommodation provided would seat about 459,143 persons. The average attendance was 312,221.

Nearly all the religious bodies maintain Sunday-schools. The attendance of children at these schools shows a considerable increase during the past three years. Some part of this increase is merely apparent, and is due to the greater completeness in the returns, but no small portion of the improved attendance results from the extension of school accommodation in various parts of the country. The attendance of children at the Sunday-schools

Sunday-schools.

Sunday-schools maintained by all denominations.

of the leading denominations, with the number of schools and teachers during 1889, was :—

Denomination.	No. of schools.	Number of teachers.			Average number of scholars.		
		Male.	Female.	Total.	Male.	Female.	Total.
Church of England...	554	1,115	2,341	3,456	16,305	20,037	36,342
Roman Catholic	441	309	1,168	1,477	11,125	14,395	25,520
Presbyterian	240	589	923	1,512	5,461	6,593	12,054
Wesleyan Methodist	334	1,348	1,473	2,821	10,345	11,878	22,223
Other Methodists.....	76	449	375	824	3,473	3,689	7,162
Congregational	69	372	412	784	3,394	4,059	7,453
Baptist	36	146	151	297	1,165	1,379	2,544
Salvation Army	50	90	129	219	759	1,049	1,808
Other denominations	32	103	75	178	751	817	1,568
Total	1,832	4,521	7,047	11,568	52,778	63,896	116,674

Attendance at Sunday-schools.

The attendance given above is extremely high, amounting as it does to nearly 50 per cent. of the total children between the ages of 7 and 15 years, at which ages children generally attend Sunday-schools. The number of Sunday-schools and teachers, and the attendance during each of the past ten years, was :—

Year.	Number of schools.	Number of teachers.	Average attendance.		
			Male.	Female.	Total.
1880	1,340	9,027	33,304	39,089	72,393
1881	1,405	9,289	34,950	40,722	75,672
1882	1,318	9,190	34,393	41,334	75,727
1883	1,441	9,793	35,205	42,610	77,815
1884	1,461	9,426	35,883	43,202	79,085
1885	1,513	9,986	37,991	46,531	84,522
1886	1,596	10,759	47,307	56,354	103,661
1887	1,614	10,749	48,333	58,999	107,332
1888	1,724	11,267	50,556	61,735	112,291
1889	1,832	11,568	52,778	63,896	116,674

PART XXI.

Defence.

Imperial garrison.

NEW South Wales was garrisoned with British troops from the time of its foundation as a colony until the year 1870. For part of the years 1870 and 1871 the Colony was without regular troops, its defence being entirely in the hands of the volunteer force. In 1871 a local regular defence force was enrolled, comprising one battery of artillery and two companies of foot, the latter, however, were disbanded in the following year. The permanent artillery was strengthened by a second battery in 1876, and by a third in 1877. To supplement the Imperial troops in Australia a volunteer force was enrolled in 1854, Great Britain being then at war with Russia. The Act authorizing the establishment of the force was 18 Vic. No. 8. The original strength of this corps was one troop of cavalry, one battery of artillery, and six companies of foot, but with the termination of the Crimean war this force practically ceased to exist. A few years later, in 1860, the volunteer movement was revived, and a second force enrolled, consisting of one troop of mounted rifles, three batteries of artillery—two stationed at Sydney, and one at Newcastle—and twenty companies of infantry, fourteen of which were recruited from Sydney and its suburbs, and six from the country districts. The total strength of all arms was about 1,700 men. In 1868 the force was reorganized under the Volunteer Regulation Act, passed towards the close of the previous year. In 1873 a further reorganization of the volunteer troops of the Colony took place upon a plan drawn up by Sir William Jervois, and in 1885 an additional force of reserves was enrolled.

Volunteer movement.

Land forces of the Colony.

The land forces of the Colony comprise three distinct branches, the Permanent or Regular Military Force, Volunteers or partially paid Force, and Reserves. The Permanent Force consists of artillery and submarine miners. The mounted infantry was disbanded in July, 1890. The Volunteers consist of artillery, engineers, submarine miners, infantry, mounted infantry, cavalry, naval brigade, and naval artillery; while the Reserves, which are purely volunteer corps, comprise infantry only at present.

Permanent Artillery.

The Permanent Force comprises a general staff of 9 commissioned and 14 non-commissioned officers, and 18 commissioned officers of artillery, 35 non-commissioned and 447 rank and file. There are also 2 commissioned officers in the submarine miners, 1 warrant officer, 1 non-commissioned officer, and 20 rank and file, while the permanent mounted infantry consisted of one major, one captain, two sergeants, and 27 rank and file, the whole force thus numbering 578. The rates of pay of the regular artillery, apart from the permanent staff, were for the year 1889:—Colonel, £500; lieutenant-colonel, £450; majors, £383; captains, £256; lieutenants, £238; staff-surgeon, £350; surgeon, Newcastle, £75. Sergeants from 4s. to 10s. per diem; corporals, 3s. 4d. per diem; bombardiers, 3s. 2d. per diem; trumpeters, 2s. 3d. per diem; master gunners, 7s. to 10s. per diem; gunners, 2s. 3d. per diem; the permanent mounted infantry and submarine miners are paid on the same scale as the artillery, and the total cost was £71,313. The artillery man the batteries guarding the harbours of Sydney, Botany Bay, and Newcastle, mount guard at the vice-regal residence, and perform such other duties as usually appertain to a garrison. The troops are a fine body of men; the minimum height at which recruits are accepted is 5ft. 6in.

Volunteer Force.

The Act authorizing the establishment of a volunteer force was assented to on the 24th July, 1854, and the Act continued in operation with various modifications until 1878, when the land forces of the Colony were remodelled; and further alterations took place in 1888. The volunteer force was retained, but a system of payment was introduced in lieu of the indirect remuneration by a land grant of 50 acres for five years continuous efficiency, which obtained previous to 1878. The ages at which recruits for the volunteer force are taken are between 18 and 40 years. The volunteer force of the Colony consists of five arms in addition to the permanent staff, and the total strength of the force is 7,556 men of all ranks. The staff numbers 138, of whom 62 belong to the permanent and 4 to the honorary staff, 7 are medical officers, 61 belong to the Medical Staff Corps, and 4 are honorary chaplains.

Artillery.

The artillery consists of 525 men of all ranks, of whom 27 are commissioned and 68 non-commissioned officers, with 427 privates, besides which there are 1 commissioned and 2 non-commissioned officers on the permanent staff. It is distributed in four districts, the strength of each being :—

Sydney	357
Newcastle	58
Wollongong	61
Bulli	49
	525

Engineers and submarine miners.

The engineers are located in Sydney, and number 91 men of all ranks, viz., 4 commissioned officers, 17 non-commissioned officers and buglers, and 70 sappers. The submarine miners are also located in Sydney; they comprise 9 commissioned officers, 12 non-commissioned officers and buglers, 1 non-commissioned officer on the permanent staff, and 84 privates, or 106 of all ranks.

Infantry.

The infantry forces are distributed over five districts, the strength of each district being—

Sydney	723
Western	611
Northern	675
Southern	310
South-western	270
	2,589

This arm comprises 125 commissioned officers, 315 non-commissioned officers, 4 commissioned and 8 non-commissioned officers on the permanent staff, and 2,137 privates and buglers.

The mounted infantry were only established in 1888. They now number 17 commissioned officers, 39 non-commissioned officers, and 222 privates, and are distributed as follows :—

Western District	95
Northern District	99
Southern District	84
	278

Cavalry.

The cavalry provide their own horses and equipment, their uniform and arms being provided by the Government. They are equipped as ordinary light cavalry. The force consists of 21 commissioned officers and 39 non-commissioned officers, besides 2 non-commissioned officers on the permanent staff and 254 privates. It is distributed through three districts :—

Sydney	47
Southern District	180
Northern District	99
	326

Volunteer reserves.

Besides the Volunteer force described above, there are the remains of an unpaid Volunteer reserve, with a strength of 124 men of all ranks. They consist of 12 commissioned and 9 non-commissioned officers and 98 privates, besides 3 commissioned and 2 non-commissioned officers on the permanent staff. They are all stationed in Sydney, with the exception of one commissioned and one non-commissioned officer of the permanent staff, in the Northern District. The reserves have been nearly all merged into the partially paid force, or rifle companies; they are provided with arms and equipment, and each company is granted an allowance for incidental expenses.

Efficiency—how secured.

To rank as an efficient, every volunteer must serve for nine days continuously in camp, and for two detached days, together with certain specified half-days and night drills, during the year. The artillery are required to attend 11 out of 16 half-day parades, including shot practice. The engineers must attend, in addition to the continuous training, 9 out of 14 half-day parades, and 9 night drills; the submarine miners, 15 out of 22 half-day parades, and the infantry, 9 out of 13 half-day parades, and a course of musketry. Pay is granted to all ranks according to a sliding scale. Gunners, sappers, and privates receive 10s. for each day of continuous training, and a like sum for each detached day's parade; for a half-day parade 5s. is paid, and for a night parade 2s. In addition to these sums, every volunteer passing through the musketry course, and qualifying as a marksman, is granted 15s.; if as a first-class shot, 10s.; and if as a second-class shot, 5s.; with a bonus of £2 if he qualifies at the end of the year as an efficient.

Rifle Companies.

In 1888 a system of rifle companies was established, and there are now 85 companies, comprising 3,392 men, distributed through the Colony as follows:—

	Companies.	Men.
Metropolitan, Western, and Southern Districts ...	55	2,237
Northern District	30	1,155
Total	85	3,392

Naval Forces.

New South Wales has no navy of its own, with the exception of the corvette "Wolverene," 16 sixty-pounder muzzle-loading rifled guns, and two small torpedo steam-launches, the "Acheron" and the "Avernus," the defence of its coast being in the hands of the British ships on the Australian station. The naval forces of the colony comprise 633 men of all ranks, 119 being officers and 514 A.B.'s.

Naval Brigade.

The Naval Brigade was first enrolled in 1863. It was originally intended to operate chiefly for coastal defence, but hitherto it has been employed mostly as a light artillery land force. Quite recently it has been occasionally put to its proper use by being drilled in naval manœuvres on board the "Wolverene" during short cruises at sea. The force consists of 19 commissioned officers, 1 accountant, 24 petty officers, 16 midshipmen and cadets, 3 gunnery instructors, and 276 A.B.s. Of these men 283 are stationed in Sydney and 56 at Newcastle.

Naval Artillery Volunteers.

There is another arm of the Naval service known as the Naval Artillery Volunteers. Its duty is to man and work any gunboat available for this service, or serve as field artillery if other service be not available. The officers and men provide their own uniforms, while the Government supply arms, and allowed in 1889 a subvention of £1,201 for military instruction and ordinary expenses incidental to the working of such a corps. The strength is 276 men of all ranks, including 18 officers, 1 warrant officer, 28 petty officers, 200 A.B.'s, and 26 in the band.

In connection with the Naval Defence Forces there are also 3 staff officers, 10 officers and men in charge of the "Wolverene," and 5 in charge of the two torpedo-boats.

Total Defence Forces.

The total defence forces of the Colony number 8,767 officers and men, distributed as follows :—

Regular Military Force :—	
General Staff	23
Artillery	500
Submarine Miners	24
Mounted Infantry	31
	578
Volunteer Force :—	
Permanent Staff	62
Medical Staff Corps	68
Honorary Staff	4
Cavalry	317
Artillery	525
Engineers	91
Submarine Miners	106
Mounted Infantry	278
Infantry	2,589
Reserves	124
Rifle Companies	3,392
	7,556

Naval Forces:—	
Naval Defence Force Staff	3
H.M.C.S. "Wolverene"	10
Naval Brigade	339
Naval Artillery Volunteers	276
Torpedo Boats—"Acheron" and "Avernus"	5
	633
Grand Total	8,767

Expenditure on Defence.

The expenditure by the State during 1889 on defence works and the Permanent and Volunteer Military forces, amounted to £207,175, and was distributed as follows:—

	£
General Staff	5,833
Military Instructors	1,606
Artillery Force	52,705
Permanent Submarine Miners	5,115
Permanent Mounted Infantry	4,794
Works of Defence	965
Volunteer Force	101,459
Naval Brigade	5,619
Naval Artillery Volunteers	1,201
Training Ship "Wolverene"	2,894
Torpedo Defence	1,260
Ordnance and Barrack Department	23,724
Total	£207,175

Whatever opinion may be entertained of the present condition of the defences of the Colony there can be no doubt that a very large sum of money has been expended upon them. The details cannot now be ascertained respecting the earlier defences of the harbour of Port Jackson, such as Fort Phillip, where the Observatory now stands, Fort Macquarie, and Fort Denison, which, with the batteries at Dawes' Point, Kirribilli, and Mrs. Macquarie's Chair were thought to render Sydney almost impregnable some forty years ago, when the ponderous artillery now in use had not been invented. The returns of expenditure for military, naval, and defence purposes since the year 1860 are, however, available and are appended hereto. It will be observed that during the thirty years no less than £2,610,000 was expended from the Con-additional Revenue, or an average of £87,000 per annum, these services:—

Year.	Military Expenditure (including Buildings and Works of Defence).	Naval Expenditure.	Total.	Year.	Military Expenditure (including Buildings and Works of Defence).	Naval Expenditure.	Total
	£	£	£		£	£	£
1860	20,124	——	20,124	1876	45,494	5,317	51,
1861	36,425	——	36,425	1877	84,130	6,497	90,
1862	39,703	——	39,703	1878	68,716	7,327	76,
1863	38,384	1,843	40,227	1879	95,729	8,580	104,
1864	17,483	919	18,402	1880	94,620	6,945	101,
1865	19,635	2,030	21,665	1881	96,079	7,165	103,
1866	17,576	3,944	21,520	1882	94,498	17,696	112,
1867	20,500	3,655	24,155	1883	124,700	26,880	151,
1868	22,904	3,000	25,904	1884	160,267	15,627	175,
1869	29,148	4,009	33,157	1885	101,840	22,451	*124,
1870	27,525	3,857	31,382	1886	239,727	25,753	265,
1871	17,896	4,416	22,312	1887	284,471	30,397	314,
1872	32,906	4,427	37,333	1888	149,246	20,797	170,
1873	30,842	5,116	35,958	1889	196,201	10,974	207,
1874	61,366	5,482	66,848				
1875	61,153	5,441	66,594	Total	2,349,381	261,314	2,610,

*Does not include £121,000 Australian Contingent to the Soudan.

Loan money expended on defence.

In addition to the sums spent from current revenue a lar amount of loan money has been expended in the erection of for fications, which, it is expected, will serve for the protection future as well as the present generation of colonists. The deta of this expenditure are as follow:—

Loan Expenditure on Fortifications, &c.

Previous to 1871.............. ... £81,165

	£		£
1871................	43,601	1882..........	39,757
1872....................	24,466	1883..........	24,819
1873....................	25,134	1884..................	4,683
1874............... ...	22	1885..........	54,729
1875....................	368	1886............. ...	61,814
1876....................	4,506	1887..................	8,350
1877....................	3,735	1888..................	22,296
1878....................	33,227	1889..	56,440
1879....................	21,270		
1880....................	14,582	Total	£657,604
1881....................	22,640		

Naval Station in Port Jackson.

Another source of expenditure to the Colony is that of the Naval Station in Port Jackson. An arrangement was made with the Imperial authorities by which the Government of the Colony undertook to give up Garden Island for the purposes of a naval station, and to erect thereon the requisite buildings; also to provide certain other accommodation required for the use of the war-vessels in the harbour. In consideration of this, it was agreed on the other side, that Sydney should be the head-quarters of the Australian fleet, and also that the Imperial Government should give up all their claim upon certain lands and buildings owned by them in the Colony. These included, among others, the Paddington Barracks, the Domain and Botanic Gardens, and the old Commissariat Stores, as well as other valuable properties. In carrying out the works at Garden Island and Kirribilli Point the following expenditure has been incurred:—

Loan Expenditure on Naval Stations.

Year.	Amount.
	£
1885	642
1886	33,928
1887	15,431
1888	52,013
1889	15,574
Total	117,588

Total expenditure for defence purposes.

It thus appears that the total amount spent by the Colony of New South Wales, for defence purposes, since the beginning of the year 1860, to the end of 1889, was £3,544,937, or an average of over £118,000 per annum. The items which make up this amount may be recapitulated thus:—

Expenditure on Military, Works of Defence, &c.

	£
From Consolidated Revenue	2,610,695
From Loans—For Harbour Defences	657,604
From Loans—For Naval Station, Port Jackson	117,588
Value of Land alienated in virtue of Volunteer Land Orders, computed at £1 per acre	159,050
Grand Total	3,544,937

The following is a list of the Imperial war vessels now under Rear-Admiral Lord Charles Scott, on the Australian station:—

Imperial War Vessels on Station.

Name.	Class.	Material of hull.	Displacement.	Indicated horse-power.	Draught of water.	Length.	Beam.	Armour.	Armament. Guns.	Armament. Torpedo tubes.	Speed.	Coal endurance. [illegible]	Coal endurance. [illegible]
			tons		ft. in.	ft. in.	ft. in.				knots	tons	knots
Orlando	Twin screw cruiser, 1st class, armoured.	Steel	5,600	8,500	21 2	300 0	56 0	Armoured belt at water line, 10 in.; armoured deck, [illegible] in.; conning tower, 12 in.	2 9·2 in. 22 ton B.L.R., 10 6 in. 5 ton B.L.R., 10 Q.F. Hotchkiss, 7 M., 2 L.	[illegible]	18·5	900	[illegible]
Curaçoa	Screw cruiser, 3rd class.	Steel and iron sheathed with wood	2,380	2,540	18 10	225 0	44 0	....	4 6 in. 5 ton B.L.R., 8 5 in. 2 ton B.L.R., 1 Q.F. Hotchkiss, 6 M., 2 L.	[illegible]	13·0	[illegible]	[illegible]
Cordelia......	Screw cruiser, 3rd class.	do ..	2,380	2,420	18 8	225 0	44 0	....	10 6 in. 4½ ton B.L.R., 10 M., 2 L.	[illegible]	13·0	[illegible]	[illegible]
Rapid	Screw cruiser, 3rd class.	Composite.	1,420	1,400	15 0	200 0	38 0	....	2 6 in. 4 ton B.L.R., 10 5 in. 38 cwt. B.L.R., 4 M., 1 L.	....	13·1	[illegible]	[illegible]
Royalist......	Screw cruiser, 3rd class.	do ..	1,420	1,510	15 0	200 0	38 0	....	2 6 in. 4 ton B.L.R., 10 5 in. 38 cwt. B.L.R., 4 M., 1 L.	....	13·1	[illegible]	[illegible]
Lizard	Screw gun-boat, 1st class.	do ..	715	1,000	13 0	165 0	20 0	....	6 4 in. 20 cwt. B.L.R., 4 M.	....	[illegible]	100	[illegible]
Goldfinch	Screw gun-boat, 1st class.	do ..	805	1,200	12 8	165 0	30 0	....	6 4 in. 20 cwt. B.L.R., 2 Q.F. Hotchkiss, 2 M.	....	13·0	105	..
Ringdove	Screw gun-boat, 1st class.	do ..	805	1,200	12 8	165 0	30 0	....	6 4 in. 20 cwt. B.L.R., 2 Q.F. Hotchkiss, 2 M.	....	13·0	105	..
Swinger*	Screw gun-boat, 2nd class.	do ..	430	520	10 5	125 0	22 0	....	2 64 pdr., 64 cwt., M.L.R., 2 20 pdr. B.L.R., 2 M.	....	10·4	40	1,000
Penguin†	Screw sloop..	do ..	1,130	1,110	16 1	170 0	30 0	....	2 64 pdr. 64 cwt. M.L.R., 1 L., 2 M.	....	11·5	150	[illegible]
Dart†	Screw yacht..	do ..	470	200	12 11	133 0	25 2	....	2 L.	....	[illegible]	64	.

* To be relieved by H.M.S. Ringdove. The Swinger is to be sold. † Surveying service. M.L.R., Muzzle-loading rifled guns; Q.F., Quick-firing guns; M., Machine guns; L., Light guns under 15 cwt.; B.L.R., Breech-loading rifled guns.

Australian Squadron to be increased.

It is proposed to materially increase the strength of the Australian squadron, and an undertaking has been entered into by all the colonies, with the exception of Queensland, for the payment of a *pro râta* subsidy for the maintenance of the fleet. The total subvention to be paid by all the colonies amounts to £91,000 per annum, and the contribution of New South Wales would amount to £26,901. Under the provision of the "Australasian Naval Force Act," which was assented to on 20th December, 1887, the squadron will be constituted on the following basis:—The fleet is to consist of five fast cruisers, and two torpedo gunboats, as represented by the "Archer" (improved type) and "Rattlesnake" classes of the British navy; of these, three cruisers and one gunboat will always be kept in commission, the remainder being held in reserve in Australasian ports, but ready for commission whenever circumstances may require their use. The agreement is for a period of ten years, and shall then, or at the end of any subsequent year, be terminable, provided two years' notice has been given. The vessels are being built by the British Government, but the Australasian Colonies will pay the interest on their prime cost at the rate of 5 per cent., provided such payment does not exceed £35,000. The colonies are also to pay the actual charge for maintenance as mentioned above. On the termination of the agreement these vessels will remain the property of the Imperial Government. The strength of the fleet already in Australian waters will be maintained. The vessels specified in the agreement between Great Britain and the Colonies are to be in addition to these. The Australasian squadron will be commanded by the Admiral on the Australian station, whose headquarters are in Sydney, where a residence is provided for him by the Colony.

Fortifications.

Extensive fortifications have been erected at various important points on the coast. Sydney has two lines of defence, and is deemed almost impregnable; Botany Bay forming the southern defence of Sydney is strongly fortified, as also is Newcastle, the great coal port of the Colony.

PART XXII.

Local Government.

Introduction of the municipal system.

PRIOR to the year 1842 municipal institutions did not exist in the Colony. In that year an Act was passed to establish the Municipal Council of the city of Sydney, and an election of aldermen and councillors took place on the 9th November. Mr. John Hoskins was the first Mayor. The city was at first divided into six wards, but at a subsequent adjustment the number was increased to eight, as at present. The boundaries of the city are the same as those then laid down. After a few years great dissatisfaction arose in the minds of the citizens in regard to the manner in which the affairs of the Council were carried on, and a Select Committee of the Legislative Council was appointed in 1849 to inquire into the matter, who reported in favour of the abolition of the Municipal Council, with a recommendation that its powers should be vested in three Commissioners to be appointed for that purpose. This was not carried into effect until 1853, when the Corporation was dissolved, and its powers were handed over to Messrs. G. Elliott, J. Rae, and F. Darvall, who as a Commission exercised them from the beginning of 1854 to the end of 1857. The new Municipal Council of Sydney came into existence at the beginning of 1858. Mr. George Thornton was the first Mayor under the new order of things, and there were altogether sixteen aldermen two for each ward. Since then the number of aldermen has been increased to twenty-four, each ward having three representatives.

Incorporation of Sydney.

Extension of Municipalities.

The necessity for extending the system of municipal government to the suburbs and country districts soon became apparent, but it was not until 1858 that a comprehensive measure was passed. Under this Act thirty-five districts were incorporated, all of which still exist. In 1867 the Municipalities Act was passed, which is yet in force. Its provisions are extremely liberal, but no district, however populous, is compelled to take advantage of them, and it is only by consent of a majority of the prospective ratepayers that a new municipality can be formed. By the Act of 1867 contiguous districts, with an area of not more than 9 square miles, and a population of not less than 1,000, may be incorporated as boroughs, and districts of not more than 50 square miles, with a population of not less than 500, may be formed into municipal districts. At the present time the Colony contains 148 incorporated districts, of which 64 are boroughs, and 83 municipal districts, the City of Sydney being styled a municipality. The area incorporated embraces only 2,166 square miles, equal to 0·70 per cent., or $\frac{1}{141}$ of the total area of the Colony. The population of New South Wales at the close of 1889 was 1,122,200, or 3·61 to the square mile; in the municipalities there was a population of 677,282, or an average density of 313 persons per square mile, or 217 times that of the rest of the Colony. The estimated value of land and houses in the Colony may be approximately stated at £311,100,000; of this sum £127,212,000, or 41 per cent., was in the incorporate districts, and £183,988,000, or 59 per cent., in the other districts. Of course the value of waste Crown lands is not included in this estimate.

Number of Municipalities.

Powers of Municipalities.

The powers and privileges conferred upon municipalities are extensive. In addition to maintaining the thoroughfares, the corporations are entitled to construct sewerage, water supply, and gas works, and to levy the necessary rates in connection therewith; to make and enforce by-laws for the maintenance of public health and the abatement of nuisances; to establish free public libraries and free infant schools; and to see the material and sanitary condition generally of the residents properly attended to. Every year assessors are appointed, and all municipal property is valued, and the councils are empowered to raise revenue by rates on the value so found, not exceeding 1s. in the £ for ordinary purposes, and not exceeding the same amount for special purposes. The amount of rate is calculated upon nine-tenths of the fair average rental of all buildings and cultivated lands, or lands which are, or have been, let for pastoral, mining, or other purposes, whether such land or buildings be actually in occupation or not, and upon 5 per cent. of the capital value of the fee-simple of all unimproved land.

The following table shows the present condition of the various municipalities of New South Wales :—

Estimated Population, Ratable Property, and Value of Improvements, in Boroughs and Municipal Districts.

Municipalities.	Estimated number of Dwellings.	Estimated Population on 31st December.	Amount of Rate levied in the Pound.		Capital Value of Unimproved Lands. *	Annual Value of Improved Lands, Buildings, &c.	Total Annual Value of all Property.	Estimated Capital Value of all Property in Municipalities. †	Total extent of Roads and Streets.		Estimated Value of made Roads and Streets.	Estimated Value of Municipal Buildings the property of the Councils.
			Ordinary Rate.	Special Rates.					Made.	Unmade.		
	No.	No.	s. d.	s. d.	£	£	£	£	miles.	miles.	£	£
City of Sydney..	21,500	128,880	1 6	......	No estimate.	2,276,362	2,276,362	45,527,240	115	....	780,000	1,700,000
Suburbs	53,427	259,970	1 0	1d. to 6d.	10,724,408	2,574,605	3,110,825	48,208,834	784¼	608½	1,453,005	125,840
Total Metropolis	74,927	388,850	{ 1 0 1 6 }	1d. to 6d.	‡10,724,408	4,850,967	5,387,187	93,736,074	899¼	608½	2,233,005	1,825,840
Country	55,378	288,432	10d. to 1s.	1d. to 1s.	4,941,100	2,158,108	2,405,163	33,475,972	1,809¼	2,322½	1,368,995	302,815
Total	130,305	677,282	{ 10d. to 1s. 6d }	1d. to 1s.	‡15,665,508	7,009,075	7,792,350	127,212,046	2,708½	2,931	3,602,000	2,128,655

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* For Municipal purposes the annual value of unimproved land is taken at 5 per cent. of the capital value shown in this column.

Metropolitan Water and Sewerage Rate.

In the preceding table no mention is made of the rates charged in the city and suburbs of Sydney under the Metropolitan Water and Sewerage Act, since these are levied by the Board constituted under the Act mentioned and not by the municipalities. Properties supplied by the Board are charged an assessment ranging from 6d. in the pound up to an annual value of £300, with a sliding scale to 2d. on those over the sum named, the least assessment being 10s.

Rates under Country Towns Water and Sewerage Act of 1880.

Municipalities which have availed themselves of the provisions of the Country Towns Water and Sewerage Act of 1880, are empowered, under clause 13 of the said Act, to levy a rate not exceeding a maximum of 5 per cent. on the assessed value of land and tenements in addition to the ordinary municipal rate. Such maximum rate is at present levied in the municipalities of Wagga Wagga and Bathurst, the ratepayers of which towns are under a total contribution of 2s. 4d.; and Albury and Goulburn, where they are charged 2s. 3d. in the £ on the assessed value of their properties.

Endowment.

In order to aid municipalities in the difficulties surrounding their inception, the Act of 1867 provides for endowment being granted for a period of fifteen years. In each of the first five years after incorporation, every municipality is entitled to a sum equal to, but not exceeding, the whole amount actually raised by rates or assessments and subscriptions paid during the past year. In each of the next succeeding five years a sum equal to, but not exceeding, one moiety; and in each of the next succeeding five years a sum equal to one-fourth of the amount so paid. After the expiry of these fifteen years the assistance which municipalities may demand from the Government ceases. The flourishing state of the revenue during many years enabled the Government to grant aid to municipalities beyond what the law directed, and during some years an endowment equal to the assessment was paid to them.

Value of ratable property.

The value of property assessed for municipal purposes during 1889 was returned by the various local authorities at £127,212,046; but this amount somewhat understates the actual capital value, as much of the unimproved land, especially in suburban and country districts, is returned at far below its real worth. Taking all municipalities, this understating amounts to, at least, 10 per cent.; so that the actual value of property within incorporated districts is not less than £139,933,251. If, however, the nominal values as returned by the municipal authorities themselves are taken, the capital and annual value of property in all districts during the past eight years were as follow:—

Annual and Capital Value of Property in Boroughs and Municipalities.

Year.	City of Sydney.	Suburbs of Sydney.	Country Municipalities.	Total.
	£	£	£	£
1882—Annual value	1,655,952	1,314,919	1,064,560	4,035,431
Capital value	29,807,140	19,749,107	11,697,199	61,253,446
1883—Annual value	1,838,642	1,449,947	1,266,502	4,555,091
Capital value	36,772,840	20,676,070	14,425,195	71,874,105
1884—Annual value	1,979,772	1,690,109	1,524,218	5,194,099
Capital value	39,595,440	23,046,854	17,661,067	80,303,361
1885—Annual value	2,035,235	1,935,884	1,713,578	5,684,697
Capital value	40,704,700	29,410,787	21,828,805	91,944,292
1886—Annual value	2,096,476	2,289,685	1,727,951	6,114,112
Capital value	41,929,520	32,960,620	21,657,828	96,547,968
1887—Annual value	2,131,026	2,501,904	1,895,591	6,528,521
Capital value	42,529,525	36,644,629	26,699,331	105,873,485
1888—Annual value	2,228,817	2,987,061	2,149,566	7,365,444
Capital value	44,576,340	45,635,138	30,073,617	120,285,095
1889—Annual value	2,276,362	3,110,825	2,405,163	7,792,350
Capital value	45,527,240	48,208,834	33,475,972	127,212,046

Increase in six years.

The increase shown in this table is very considerable. From 1882 to 1888 the annual value has risen from £4,035,431 to £7,792,350, or at the rate of 9·86 per cent. per annum, while the capital value has advanced from £61,253,446 to £127,212,046, or at the rate of 11·01 per cent. per annum. Part of this increase is due to an additional number of districts incorporated; but when an allowance is made for these it will still be found that the progress is very satisfactory.

The amount of increase during the past seven years will be found in the following table:—

Municipalities.	Increased annual value during seven years.		Increased capital value during seven years.	
	Total.	Per cent.	Total.	Per cent.
	£		£	
City of Sydney	620,410	37·46	15,720,100	52·74
Suburbs of Sydney	1,795,906	136·58	28,459,727	144·11
Country Municipalities	1,340,603	125·93	21,778,773	186·19
Total	3,756,919	93·09	65,958,600	107·68

Position of Sydney amongst cities of the Empire.

The growth of the city and suburbs has been marvellous, and Sydney now stands as the third city of the British Empire, as estimated by the annual value of its ratable property, Melbourne ranking second. The annual value of property in Sydney during 1888 was £5,215,878, and in 1889, £5,387,187; the annual value of Melbourne and suburbs during 1888 was £5,322,948, and for 1889 it is returned at £5,649,622. The following are the annual values of the principal British cities for 1889:—

London (Metropolitan Board of Works)	£31,033,786
Glasgow	3,401,790
Liverpool	3,301,879
Manchester and Salford	3,179,337
Birmingham	1,772,855
Leeds	£1,213,620
Sheffield	1,087,032
Bradford	1,006,833
Bristol	1,005,396
Nottingham	907,156
Newcastle-on-Tyne	863,005

Capital value of each municipality.

The capital value of ratable property in all municipalities, and the assessed annual value, together with the amount of income, and other particulars are shown in the following table:—

Capital and Annual Value of Ratable Property and Income of Boroughs and Municipal Districts during 1880.

Boroughs and Municipal Districts.	Estimated number of dwellings.	Estimated population on the 31st December.	Estimated capital value of all property in the Municipality.	Annual value of improved lands, buildings, &c.	Revenue, exclusive of Loans.	Outstanding Loans.	Extent of Roads and Streets	
							Made.	Unmade.
METROPOLITAN.								
			£	£	£	£	Miles.	Miles.
Municipality of Sydney	21,500	128,880	45,527,210	2,276,302	206,061	740,000	115	......
SUBURBAN MUNICIPALITIES.								
Alexandria	1,420	7,000	710,000	50,125	4,040	15,500	10½	9½
Ashfield	2,152	11,000	2,500,000	140,700	13,614	15,000	20	8
Balmain	5,130	27,000	3,300,000	210,000	20,580	58,000	44	6
Botany	326	1,763	292,650	15,380	1,415	5,000	7¼	9¼
Botany North	450	2,019	386,200	13,312	1,327	2,420	4	25
Burwood	1,185	5,800	1,322,517	77,600	7,604	25,000	25½	4½
Camperdown	1,263	5,900	678,800	42,836	4,606	17,000	11¼	2¾
Canterbury†	......	......	....	....	......	....	......	......
Concord	395	2,700	527,400	10,800	2,606	3,000	16	9
Darlington	698	3,019	302,300	20,670	2,773	5,000	4¾	......
Enfield	320	1,700	158,000	12,000	1,108	....	4½	16
Five Dock†	.....	......	.. ..	....	......	....	......	......
Glebe	3,300	15,643	2,103,050	151,384	15,721	35,000	25	1
Hunter's Hill	475	3,000	.695,225	26,630	3,606	5,800	15	27
Hurstville	480	2,500	1,008,780	19,977	6,830	....	20	73

Paddington	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		
Petersham	1,998	10,000	2,259,400	106,830	9,026	14,500	20	[illegible]
Randwick	947	5,000	1,562,480	97,320	8,245	27,300	33	52
Redfern	4,500	20,000	2,220,000	176,000	18,675	21,500	18	2
Rockdale	972	4,860	845,650	33,262	4,309	13,000	22	20
St. Leonards	1,454	7,270	2,897,270	113,327	9,064	5,000	34	60
St. Leonards East	1,120	5,600	1,350,000	65,840	8,354	28,000	13	3½
St. Peters	1,030	5,000	624,629	25,623	2,778	10,000	10	7
Strathfield	275	1,000	750,000	24,350	5,940	5,000	6	14
Victoria	850	4,250	1,376,024	39,717	3,276	9,000	5	1½
Waterloo	1,796	8,100	842,952	70,246	6,593	15,000	14½	10
Waverley	1,820	10,000	2,100,400	117,390	12,037	30,000	24	28
Willoughby, North	550	1,600	1,415,120	21,885	4,231	8,000	34	31
Woollahra	1,919	9,300	2,480,000	143,991	12,993	2,000	22	44
Total	52,627	255,970	46,908,834	2,544,605	261,685	513,770	719¼	597½
Estimates of Municipalities of Canterbury and Five Dock	800	4,000	1,300,000	30,000	5,727	......	65	71
Suburbs	53,427	259,970	48,208,834	2,574,605	267,412	513,770	784¼	668½
Sydney	21,500	128,880	45,527,240	2,276,362	206,961	740,000	115	......
Total Metropolitan	74,927	388,850	93,736,074	*4,850,967	474,373	1,253,770	899¼	668½
Country Municipalities.								
Adamstown	400	2,000	206,110	7,830	1,144	2,000	3	10
Albury	810	6,000	456,000	41,300	7,265	....	24	41¾
Armidale	750	3,400	255,000	25,833	2,975	3,600	20	29½
Ballina	157	1,025	113,750	6,054	1,525	600	.....	30

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* The amounts shown in this column represent the total value of property in the Municipalities, including unoccupied as well as occupied lands and houses.

Boroughs and Municipal Districts.	Estimated number of dwellings.	Estimated population on the 31st December,	Estimated capital Value of all property in the Municipality	Annual value of improved lands, buildings, &c.	Revenue, exclusive of Loans.	Outstanding Loans.	Extent of Roads and Streets. Made.	Extent of Roads and Streets. Unmade.
Country Municipalities—continued.								
			£	£	£	£	Miles.	Miles.
Balranald	171	450	93,593	7,243	1,119	....	3¼	47½
Bathurst	2,000	10,000	940,000	64,000	13,184	34,500	26	31
Bega	420	2,300	319,434	18,680	2,288	8,000	14	12
Bingera	114	860	72,200	3,650	159	....	7½	......
Blayney	225	1,000	95,000	8,750	1,150	....	8½	8½
Bourke	540	3,500	420,000	34,500	2,500	5,000	10	......
Bowral	325	2,000	254,146	15,372	3,051	4,000	10	8
Broken Hill	2,500	14,000	665,242	95,145	6,228	....	1½	125
Broughton Creek and Bomaderry	340	1,820	334,840	8,371	583	....	60	10
Broughton Vale	104	600	140,000	2,938	203	....	30	20
Burrowa	135	700	125,460	8,519	366	....	100 yds.	......
Camden	400	1,705	151,025	11,504	963	....	13	13
Campbelltown	500	2,000	199,852	13,008	1,349	400	30	10
Carcoar	140	600	110,000	4,870	348	....	3	5
Carrington	500	2,500	315,170	15,055	3,574	5,500	4	7½
Casino	300	2,000	120,000	9,851	1,031	4,000	15	30
Cobar	280	1,000	126,930	10,449	1,031	....	......	......
Cooma	300	1,500	172,544	14,205	1,169	....	10	35
Coonamble	237	1,425	267,432	11,224	1,146	....	2½	12¾
Cootamundra	377	2,260	203,770	17,466	2,253	1,000	6	9½
Cowra	300	1,800	155,900	12,265	1,426	....	3	30
Cudgegong	400	2,500	163,720	20,465	1,074	2,000	137	167
Deniliquin	570	2,500	250,010	23,020	4,493	....	20	6

Granville	838	3,400	658,274	24,300	5,433	11,200	16	41
Grenfell	170	600	138,433	5,412	681	....	2½	7½
Gulgong	380	2,000	87,000	7,780	513	2,000	55	19
‡ Gundagai	......	......	....	....	......	....	......	......
Gunnedah	225	1,100	82,000	6,900	1,408	....	5¼	20
Hamilton	885	4,750	534,876	42,004	3,761	3,500	7½	4
Hay	580	2,750	329,335	28,470	4,055	7,000	5	29
Hill End	200	450	27,072	2,707	236	....	10¼	2¼
Hillston	170	550	86,000	7,222	419	....	......	3
Illawarra Central	620	3,100	700,633	27,755	1,346	....	90	10
Illawarra North	360	2,000	249,130	11,459	918	....	25	19
Inverell	500	3,000	253,000	24,000	1,328	....	22	13
† Jereelderie	......	......	....	....	......	....	......	......
Junee	400	2,000	148,448	11,951	1,371	....	½	19½
Katoomba	239	1,320	277,068	9,995	......	....	7	......
Kempsey	630	3,100	343,200	17,160	2,079	....	16	21
Kiama	580	3,650	560,000	28,000	2,508	....	80	16
Lambton	780	4,300	194,500	16,655	1,129	4,000	·11	6
Lambton, New	353	1,412	249,766	10,714	1,503	....	6½	·60
Lismore	500	3,200	324,210	19,080	4,383	12,000	17	·35
Lithgow	740	3,500	486,322	34,033	332	....	......	5
Liverpool	800	4,000	600,000	20,000	2,869	4,000	16	34
Maclean	150	800	70,835	4,280	342	....	3	10
Maitland, East	545	3,000	398,000	20,260	4,752	5,964	26	4
Maitland, West	1,395	6,250	821,341	65,020	8,283	20,000	32¾	1¼
Merewether	930	4,565	394,497	21,118	2,461	6,000	8½	......
Mittagong	300	1,300	125,660	7,660	135	....	......	......
Molong	320	1,000	141,153	8,274	612	900	12	40

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* The amounts shown in this column represent the total value of property in the Municipalities, including unoccupied as well as occupied lands and houses. ‡ Municipality not yet constituted. † Rates have not been struck for the year 1889.

Boroughs and Municipal Districts.	Estimated number of dwellings.	Estimated population on the 31st December.	Estimated capital value of all property in the Municipality.*	Annual value of improved lands, buildings, &c.	Revenue, exclusive of Loans.	Outstanding Loans.	Extent of Roads and Streets.	
							Made.	Unmade.
Country Municipalities—continued.								
			£	£	£	£	Miles.	Miles.
Morpeth	251	1,450	115,173	8,410	1,202	....	6	3½
Moss Vale	200	1,000	278,422	10,000	1,017	2,000	20	5
Mudgee	570	3,000	321,000	17,893	1,530	5,000	7½	7
Musclebrook	335	1,350	100,093	7,238	1,222	579	4½	3½
Narrabri	380	1,830	119,345	12,541	1,364	....	6¾	9¼
Narrandera	174	400	85,000	6,900	1,513	....	3½	12
Newcastle	2,608	15,000	2,364,188	174,056	30,504	51,000	15	10
Nowra	300	1,600	180,000	10,300	1,207	....	21	9
Numba	108	557	387,800	3,878	357	....	25	3
Orange	694	3,500	505,985	37,813	7,863	27,000	10½	3½
Orange, East	421	2,100	198,183	11,805	1,112	....	1	15
Parkes	800	2,700	176,235	9,405	857	....	6	27
Parramatta	1,823	12,000	1,673,000	77,520	12,393	41,600	86	18
Penrith	......	......	....	....	......	....	.....	......
Plattsburg	690	4,100	269,687	24,864	2,777	....	7¼	5¼
Port Macquarie	190	800	106,890	5,192	508	....	15	20
Prospect and Sherwood	370	1,300	420,000	45,000	1,564	6,000	38	50
Queanbeyan	306	1,488	102,213	7,105	934	....	4	6
Raymond Terrace	171	750	71,675	5,612	1,105	1,000	2	6½
Richmond	236	1,500	151,405	7,570	526	1,200	7½	[illegible]
Ryde	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Singleton, South	126	630	64,624	5,575	625	1,000	4½	¾
Smithfield and Fairfield	250	1,000	120,000	5,000	357	....	......	......
Stockton	466	3,000	339,788	21,302	......	....	......	12
Tamworth	730	4,600	387,765	34,677	4,131	5,000	16	16
Taree	137	700	90,200	4,500	547	....	2½	4
Tenterfield	460	1,600	133,320	13,312	760	....	24	50
Tumut	227	1,137	126,754	8,908	1,131	....	3	9
Ulladulla	350	1,200	224,215	15,140	970	....	80	30
Ulmara	282	1,750	229,960	11,498	780	....	69	51
Uralla	112	650	73,000	4,638	527	....	3¼	6
Wagga Wagga	850	4,500	934,353	44,041	4,341	18,200	21	31
Walcha	212	750	120,589	6,029	219	....	......	40
Wallsend	715	3,465	292,593	26,670	2,310	1,000	10¼	3¾
Waratah	600	2,400	457,000	23,000	2,119	5,000	20	15
Wellington	278	1,420	118,672	10,117	982	....	5	32
Wentworth	242	1,000	92,000	8,500	811	....	5	9½
Wickham	1,190	5,400	539,835	39,240	4,816	13,000	9½	2
Wilcannia	290	1,800	145,000	12,300	2,390	8,000	3	11
Windsor	439	2,500	156,820	14,878	1,047	6,500	8	3
Wingham	110	520	46,883	2,810	75	....	......	14
Wollongong	650	4,000	555,270	25,066	2,920	5,000	19	11
Yass	410	1,800	166,500	16,360	886	....	12½	20½
Young	576	2,855	301,771	25,618	3,872	....	48¾	60¼
Total	54,698	284,932	32,875,972	2,140,608	253,279	380,243	1,868¼	2,262½
Estimate of the Municipality of Penrith (no return).	680	3,500	600,000	17,500	1,193	....	31	60
Grand Totals — Country	55,378	288,432	33,475,972	2,158,108	254,472	380,243	1,899¼	2,322½
Grand Totals — Metropolitan	74,927	388,850	93,736,074	4,850,967	474,373	1,253,770	899¼	668½
Total, Municipalities	130,305	677,282	127,212,046	7,009,075	728,845	1,634,013	2,798½	2,991

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*The amounts shown in this column represent the total value of property in the Municipalities, including unoccupied as well as occupied lands and houses

State endowment.

The State endowment is equivalent to 4s. 3d. per resident, and amounted to 17·64 per cent. of the total revenue received. The proportion which each source of revenue bears to the whole varies considerably, as the following statement shows :—

Percentage of Municipal Revenue derived from various sources.

Incorporated Districts.	General Rates.	Other Rates.	Endowment.	Other Revenue.
	per cent.	per cent.	per cent.	per cent.
Sydney—City ……	62·91	………	2·48	*34·61
Sydney—Suburbs …	48·48	12·69	21·91	16·92
Country … ………	37·44	14·71	28·14	19·71
Total—Colony ……	49·55	9·22	17·64	23·59

* Includes sewerage revenue administered by the City Council.

Gross revenue of Municipalities.

It will be seen from a previous table that the gross revenue of all municipalities, not including the State Endowment, is £637,354 ; if to this be added the revenue of the Metropolitan Water and Sewerage Board, the total will reach £783,294. This may be taken as the whole burthen of local taxation, and is equivalent to about 23s. per head of the population residing within the limits of incorporated districts, and to 10·05 per cent. of the total annual value of ratable property.

Expenditure.

The total expenditure during 1889 by the various municipalities amounted to £866,616, which is £92,796 in excess of the receipts from ordinary sources, the excess being accounted for by expenditure from loans raised during the year, or remaining over from previous years. The municipal expenditure may be grouped under the following heads :—

	£
Salaries and office expenses ……… ……… …	56,358
Improvement works ………………………………	450,108
Lighting, sewerage, and water.. ………………	*111,980
Interest on loans……… ……… …………………	†83,612
Interest on overdraft (City of Sydney) ………	1,887
Sinking funds … ………………………………	47,425
Miscellaneous charges ……………………… ..	115,246
Total……………………	£866,616

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* Includes £25,733 for sewerage of the city of Sydney under the Council's administration.

† Includes £14,966 interest on City Sewerage fund.

The cost of administration shown above, viz., £56,358, amounts to 6·50 per cent. of the disbursements; the expenditure on public works, including lighting, sewerage and water supply, to 64·86 per cent.; and the interest and Sinking Funds for repayment of loans to 15·34 per cent. of the total disbursements.

Expenditure of the Municipality of Sydney.

The expenditure of the Municipality of Sydney reached in 1889 the sum of £220,861, which may be distributed as under:

	£
Salaries and office expenses	8,622
Improvement works (other than sewerage)	101,343
Sewerage	25,733
Lighting	12,567
Interest on loans	24,650
Interest on overdraft	1,887
Interest on Sewerage fund	14,966
Loans, Streets, and Town Hall Sinking Funds	15,350
Miscellaneous charges	15,743
Total	£220,861

The expenses of administration only amount to 3·90 per cent. of the whole disbursements, improvement works, including sewerage, take 57·54 per cent., lighting 5·69 per cent., interest and sinking funds 25·74 per cent., and other charges 7·13 per cent. of the total expenditure.

Suburban expenditure.

The expenditure of the suburban boroughs and municipalities for the year was £339,020, which may be subdivided under the following heads:—

	£
Salaries and office expenses	19,647
Public works	193,877
Lighting	28,973
Interest on loans	28,817
Miscellaneous, including repayment of loans	67,706
Total	£339,020

The office expenses amounted to 5·79 per cent. of the total revenue of these municipalities, and will appear by no means unreasonable when the smallness of some of the districts and the difficulties attending the inception of municipalities are borne in mind. The large proportion of 57·19 per cent. was expended upon public works; lighting claiming in addition 8·55 per cent. of the total expenditure. To cover interest upon loans 8·50 per cent. was required, the remaining proportion of 19·97 per cent. being devoted to miscellaneous services. The expenditure of the other municipalities of the Colony for the year 1889 was £306,735, which, divided under the same headings as given for suburban municipalities, would appear as follows:—

Country municipal expenditure.

	£
Salaries and office expenses	28,089
Public works	154,888
Lighting and water supply	44,707
Interest on loans	15,179
Miscellaneous, including repayment of loans	63,872
Total	£306,735

The salaries and office expenses form a charge of 9·15 per cent. upon the total receipts during the year, which is considerably larger than in the suburban municipalities. The greater number of the country boroughs and municipal districts are large in area and small in population and revenue, and the proportion of expenses required to defray salaries and other charges is naturally larger than in the case of the more compact and populous districts surrounding the metropolis. The proportion of expenditure under various heads is as follows:—

Salaries and office expenses	9·15	per cent.
Public works	50·50	,,
Lighting and water supply	14·58	,,
Interest on loans	4·95	,,
Miscellaneous, including repayment of loans	20·82	,,

Municipal loans.

The receipts of the municipalities of the Colony from loans amounted to £141,726 during the year 1889; while the sum paid off existing loans, or towards sinking funds for the extinguishing of loans, was £47,425. The total indebtedness at the close of the year, exclusive of the expenditure, in construction and maintenance of sewers, was £1,634,013, and towards meeting this amount there was a sum at the credit of the sinking funds amounting to £116,684, so that the net liability was £1,517,329. The sum quoted above was owing during only part of the year, so that the total interest paid amounted to only £68,646, the rate varying from 4 to 9 per cent.; the average rate of interest was

Indebtedness per head.

approximately 5·47 per cent. The total debt per head of population living in municipalities amounts to £2 8s. 3d., and if allowance be made for sinking funds £2 4s. 9d., while the yearly charge for interest is 2s. 6d. per head. These sums, viewed apart from the resources of the municipalities, are by no means formidable; but, taken in connection with their general assets, the local debts of municipalities will appear insignificant. The returns from the municipalities and boroughs are not by any means complete, so that the total figures given must be taken as the nearest approximations that can be arrived at. The whole of the before-mentioned debt was incurred for public works and buildings. The following are the liabilities of the City of Sydney:—

City loans.

	£	£
Debentures (interminable)	100,000	
Bank overdraft on 31st December	52,077	
		152,077
Loans on Debentures (terminable at fixed dates)—		
Cattle Sale-yards Fund	60,000	
Town Hall Loan Fund	275,000	
Streets Loan Fund	300,000	
Sydney Common Debenture	5,000	
		640,000
Total		£792,077

Payment of these latter sums on maturity is, by Act of Parliament, in each case peremptorily provided for by the institution of sinking funds. The amount paid into the sinking funds during 1889 was £10,350.

Assets of city of Sydney.

Against this debt of £792,077 there exist assets approximately amounting to £2,705,834, distributed as follows:—

	£
Value of made roads, &c.	780,000
Town Hall	420,000
Markets and land	630,000
Other buildings	120,000
Cattle Sale-yards	120,000
Wharves	410,000
Sinking Funds	97,834
City Fund (reserve account)	75,000
Cattle Sale Yard Fund (fixed deposit)	3,000
Town Hall Loan Fund (fixed deposit)	50,000
Total	£2,705,834

And if to this sum be added the present value of future rates, allowing twenty years' purchase amounting to £3,170,000, the assets of the City Corporation amount to about £5,758,184, so that the indebtedness of the city of Sydney amounts to only 13·20 per cent. of the available assets.

Assets of other municipalities.

The liability of the other incorporated districts of the Colony amounted to £678,701, or slightly more than three times the ordinary rates of the year. Against this they have assets amounting approximately to £3,465,967, distributed as follows:—

	£
Value of made roads and streets	2,822,000
Buildings	428,655
Other municipal property	215,312
Total	£3,465,967

The assets, other than roads, streets, and buildings, consist chiefly of outstanding rates, plant, and materials for construction and maintenance of works within municipalities.

The present value of future rates at twenty years' purchase amounts to £4,498,600, which, added to the sum stated above, would make the total assets of these municipalities reach the sum of £7,964,567. The total municipal debt of the incorporated districts outside the boundaries of the city of Sydney would therefore appear to be only 8·52 per cent. of the available assets.

Streets and roads.

The length of streets and lanes within the boundaries of the city is 115 miles, and nearly all the roadways are formed, kerbed, and bordered by pavements of asphalt, tarred stone, flagging, or other suitable material, while 290,670 square yards of carriageway have been laid with wood blocks. The value to the city of these streets is hardly less than £780,000. Throughout the suburbs the extent of roads and streets is 1,453 miles, of which 784 miles are regularly formed, and the approximate value of these roadways, with culverts, bridges, and similar works, may be set down at £1,453,005. In the other municipalities of the Colony there are 1,899 miles of made roads, and 2,323 miles of unformed roads, in all 4,222 miles, the value of these improvements being about £1,368,995.

Municipal works.

Municipal councils are authorized by law to undertake the construction of water, sewerage, or gas works, in addition to the work usually carried on by them. To regulate the construction, maintenance, and management of these works, various enactments have been passed.

Water supply.

As early as 1850 authority was given the City Corporation by the Legislative Council for the construction of water and sewerage works, and in accordance with such authority a system of water supply from the Lachlan, Bunnerong, and Botany Swamps was adopted. This scheme involved the interception of the water, from the stream draining these swamps, at a point near the shore of Botany Bay, and pumping it to Crown-street Reservoir, 132 feet above the level of the sea; thence a portion was raised to Paddington, 280 feet over sea-level, and a further portion to Woollahra, 320 feet over sea-level. The cost of the water supply works as carried out by the City Corporation, including 301 miles of reticulation pipes, was £1,719,565. These works have now been superseded by the Nepean scheme, recommended by the Royal Commission on Water Supply, and carried out by Mr. E. O. Moriarty, M.I.C.E. The works in connection with this scheme have been conceived on a scale of magnitude commensurate with the growth to which Sydney will ultimately attain. The source of supply is the united waters of the Nepean, Cataract, and Cordeaux, mountain streams draining an area of 324 square miles, fed by the abundant rain which falls along the coast district west of Wollongong. The water is intercepted at a height of 437 feet above the level of the sea, and flows through a series of conduits—partly tunnel, partly open canals, and in places wrought-iron aqueducts—to Prospect Reservoir, a distance of 40 miles from the farthest source of supply. Here an impounding reservoir has been constructed capable of holding 11,000 million gallons, of which nearly 7,000 million will be available for supply, the remainder being intended as a settling area. The top water at Prospect Reservoir is 195 feet over high water in Sydney Harbour. From

Nepean scheme.

Prospect Reservoir.

Prospect the water is led through open conduits for a further distance of 4¾ miles, whence it is taken to Crown-street Reservoir, a distance of 16 miles, in iron pipes. The conduits above Prospect Reservoir have a capacity of 150 million gallons per day, and for 10 miles below this reservoir the capacity of the canals and pipes equals a maximum of 50 million gallons, while for the last 11 miles the water flows through 48-inch and 42-inch cast-iron pipes, having a capacity of 17·5 million gallons daily. In this work there are :—

Capacity of conduits.

Tunnels	11¾ miles.
Open canals	33¼ ,,
Wrought-iron pipes, 8ft., 7ft. 6in., and 6ft. diameter	5½ ,,
Cast-iron pipes, 48in. and 42in. diameter	11 ,,
Water surface of reservoir	1½ ,,
Total	63 miles.

All the works in connection with this magnificent scheme are completed with the exception of Prospect Reservoir. The dam in connection with this work is 1¾ miles long, and 80 feet deep in the centre, and contains 2,316,500 cubic yards of earthwork; it has been already raised sufficiently high to enable the canals leading to Sydney to be supplied. It is now proposed to lay a second line of pipes between the Potts' Hill and the Crown-street reservoirs. The cost of all works to the close of 1889, including purchase of land, maintenance, and supervision, was £3,162,087. By a recent Act the management of the whole of the Metropolitan Water Supply, including both the Botany and the Nepean works, as well as the reticulation and supply of Sydney, has been placed in the hands of a board called the Metropolitan Water Supply and Sewerage Board, three members of which, including the chairman, are appointed by the Government, and four elected by the municipalities interested. The number of houses and persons supplied with water in the metropolitan district is 7,924 and 326,035 respectively; the average consumption is 8,820,000 gallons daily, or at the rate of 129 gallons per house and 27·05 gallons per person, the total supply for the year being 3,219,244,159 gallons.

Cost of works.

Country water supply.

The Country Water Supply and Sewerage Act was passed in 1880. Under the provisions of this measure municipalities outside the county of Cumberland are entitled to construct, or have constructed for them by the Government, works for water supply and sewerage, provided the construction of the same be approved by the Governor-in-Council, and the municipalities agree to pay back the original cost of the works, with interest at the rate of 4 per cent. per annum. The Government pays for the certified cost of the works, and the municipalities pay the Government by instalments extending over a period of sixty years. Under the operations of this Act eleven water supply works have been carried out by the Government and three by municipal councils. The works completed by the Government to the end of 1889 were:—

Conditions of loans for water works.

Works constructed.

Town.	Cost.	Town.	Cost.
Albury	£42,119	Hunter River District	£362,873
Bathurst	51,514	Lismore	7,479
Bourke	13,868	Orange	20,403
Balranald	5,970	Wagga Wagga	37,998
Deniliquin	17,622	Wentworth	9,230
Goulburn	54,355		

Hay, Forbes, and Wilcannia have been carried out by the municipalities themselves, but the Parramatta water works were constructed by the municipality without State assistance. During 1889 there was expended on account of the Country Towns' Water Supply a total sum of £54,971, subdivided as follows:—

Town.	Cost.	Town.	Cost.
Albury	£284	Junee	£7
Armidale	382	Lithgow	2
Balranald	1,636	Lismore	1,047
Bourke	23	Orange	15,719
Bathurst	22	Hill End	82
Coonamble	8	Richmond	4
Cowra	4	Raymond Terrace	7
Forbes	13	Wilcannia	8,000
Goulburn	3,279	Wentworth	370
Gulgong	75		
Hunter River District	24,007	Total	54,971

These various amounts were contributed by the Government towards the cost of maintenance and extension of the works completed in the above mentioned municipalities, and for the construction of new works.

Sewerage.

Under the same Act which authorized the construction of the Sydney water supply, the sewerage works were also undertaken. The original sewerage works of Sydney were begun in 1854, and up to the close of 1889, 70 miles, 648 yards of sewers of all kinds have been constructed, at a charge of £1,025,328, the expenditure in 1889 being £7,916. In 1880 an entirely new scheme of sewerage of a very comprehensive character was begun. This system will drain the whole of the northern and southern slopes of the city and suburbs, discharging the sewerage of the former into the ocean between Bondi and South Head, and of the latter at a sewerage farm on the shores of Botany Bay. This system is nearly completed, and at the close of 1889 about £879,996 had been expended upon it.

Gasworks.

Under the authority of a recent Act gasworks have been constructed in several places by municipalities. These works supply not only the lamps required for street purposes, but in most instances undertake the illumination of private dwellings also.

Houses and population.

In Sydney there are approximately 21,500 houses, occupied by 128,880 persons. In the suburbs of Sydney there are 53,427 houses, in which 259,970 persons dwell, while in the other municipalities there are 55,378 houses, occupied by 288,432persons thus making a total for all municipalities of 130,305 dwellings, accommodating 677,282 people. In the unincorporated portion of the Colony there are about 100,000 houses, inhabited by 444,918 persons.

Municipal elections.

Municipalities are for the most part divided into wards, according to population, and every ratepayer is entitled to vote at the election of aldermen. Persons assessed at less than £25 annual value are entitled to one vote—from £25 to £75, to two votes—from £75 to £150, to three votes—and over £150, to four votes. Votes are cumulative up to four, and the method of voting is by ballot, as in the parliamentary elections.

The persons qualified to vote at municipal elections number approximately 138,507, thus distributed :—

	Municipal voters.
Sydney	20,966
Suburbs	57,038
Other municipalities	60,503
Total	138,507

Number of electors.

The number of electors entitled to vote for Parliament is 290,314, so that the proportion of municipal to parliamentary voters is 47·71 per 100, and to the total population 12·34 per 100. Including the twenty-four representatives of the city, there are 1,296 aldermen in the Colony, and the average number of municipal electors per alderman is thus 107. Of the 138,507 electors mentioned above, 79,148 are entitled to only one vote, 38,407 are entitled to two, 12,028 to three, and 8,924 to the maximum of four.

Local option.

In connection with local self-government by means of the municipal system, occurs the only instance in which the principle of what is known as local option has been put into operation in the Colony. For many years there was a strong agitation in favour of local option, or the right of the inhabitants of any district to control the liquor traffic in that district, and on several occasions attempts were made to legislate upon the subject without success. In the year 1882, however, an instalment of the principle was included in the Licensing Act then passed, which, with an amendment made in the following year, is still in force. These measures provide that in every municipality, or ward of a municipality, a local option vote shall be taken every three years, at the election for aldermen, in which the ratepayers are required to vote either Yes or No on two questions: (1) Whether any new

Carried out at municipal elections.

publicans' licenses shall be granted during the coming three years in the municipality or ward in question; and (2) whether any removals of publicans' licenses shall be allowed within the same period. A majority of over eleven-twentieths of the votes polled is required to make the vote operative in the negative. The advocates of local option are not content with this partial adoption of the principle; they urge its extension to every electorate in the Colony, all persons on the electoral roll to have the right to vote. They further propose to place it in the power of a majority of the electors to say whether licensed public-houses should be suffered to exist at all. The extreme advocates of local option even contend that women should have the right to vote upon this question as well as men, and that public-houses should be abolished without compensation to the occupants or owners.

Extension of local government.

It is proposed by a measure now before Parliament to extend the system of local government over the remaining portions of the Colony. This is on all sides deemed a very necessary step, as under the present system there is no certainty that the expenditure of the Government on purely local works is at all times equitable. Leaving out of consideration the expenditure on works of national importance, the Government during the past thirty years expended no less than £19,658,844 on works of a purely local character, not including school buildings. Of this sum £12,975,330 was expended in the country districts, and £6,683,514 in the metropolis, The division of the Colony into local government districts will not necessarily be followed by an entire stoppage of the direct expenditure in works of merely local interest by the central Government, but the larger portion of the works now undertaken by Government will be left to the local authorities, who, having to directly provide part of the expenditure, will probably see that it is laid out to the best advantage. Adopting the two divisions of metropolis and country, already mentioned, the expenditure in each since 1860 is given below. As regards the metropolitan expenditure, nearly half the total—viz., £3,210,802—was expended on water supply

Expenditure by Government for local purposes.

and sewerage works, which are sources of revenue. country districts the amount expended on similar works w £683,182 :—

Amounts expended on Local Public Works in the Cou Districts and Metropolis.

Year.	Country districts.		Metropolis.		Total.
	Expenditure.	Rate per head.	Expenditure.	Rate per head.	Expenditure.
	£	£ s. d.	£	£ s. d.	£
1860	65,861	0 5 4	21,240	0 4 5	87,101
1861	103,250	0 8 0	34,709	0 7 1	137,959
1862	118,131	0 8 11	40,612	0 8 5	158,743
1863	94,825	0 6 11	15,842	0 3 3	110,667
1864	133,591	0 9 4	17,352	0 3 6	150,943
1865	109,835	0 7 5	12,168	0 2 4	122,003
1866	92,796	0 6 0	9,963	0 1 9	102,759
1867	137,405	0 8 7	37,621	0 6 4	175,026
1868	163,819	0 9 11	33,701	0 5 5	197,520
1869	190,810	0 11 1	21,460	0 3 4	212,270
1870	124,540	0 7 0	32,347	0 4 10	156,887
1871	169,239	0 9 4	18,009	0 2 7	187,248
1872	129,003	0 6 9	40,524	0 5 8	169,527
1873	230,385	0 11 7	51,056	0 6 10	281,441
1874	265,003	0 13 0	48,211	0 6 3	313,214
1875	375,819	0 17 9	47,781	0 6 0	423,600
1876	415,025	0 19 0	68,710	0 8 2	483,735
1877	497,184	1 2 0	60,141	0 6 10	557,325
1878	643,912	1 7 4	86,373	0 9 2	730,285
1879	794,983	1 12 5	165,856	0 16 6	960,839
1880	793,966	1 11 0	201,734	0 18 10	995,700
1881	583,471	1 1 10	357,182	1 11 4	940,653
1882	704,892	1 5 5	702,696	2 18 1	1,407,588
1883	758,052	1 6 3	931,615	3 12 0	1,689,667
1884	940,858	1 11 3	669,209	2 8 0	1,610,067
1885	931,951	1 11 6	704,636	2 6 9	1,636,587
1886	868,923	1 6 4	767,906	2 7 6	1,636,829
1887	784,941	1 3 1	556,660	1 12 6	1,341,601
1888	904,477	1 5 7	344,414	0 19 2	1,248,891
1889	798,383	1 1 10	583,786	1 11 2	1,382,169

Public parks and recreation reserves.

It has always been the policy of the State to provide t dents of incorporated towns with parks and reserves for recreation, and the City of Sydney contains within its bou an extent of parks, squares, and public gardens large exist in most of the great cities of the world without even to area. They cover altogether 728 acres, or 27 per cent. of the whole of the city proper. In addition to these reserves, the inhabitants of Sydney have the use of 780 acres, formerly reserved for the water supply of the city, but now known as the Centennial Park. This magnificent recreation ground has been cleared and planted, and is laid out with walks and drives, so that it is likely to become a favourite resort with the citizens. The suburban municipalities are also well provided for, as they contain 2,285 acres of public parks and reserves, dedicated to, or purchased for, the people by the Government, or 3·1 per cent. of their aggregate area.

The National Park.

In addition to these reserves, the Government dedicated to the people, in December, 1879, a large area of land, situated within easy distance of the metropolis. This estate, now known as the National Park, with the additions subsequently made in 1880 and 1883, contains a total area of 36,320 acres, surrounding the picturesque bay of Port Hacking, and extending in a southerly direction towards the mountainous district of Illawarra. It is covered with magnificent virgin forests, the scenery is charming, and its beauties attract thousands of visitors.

Temporary and permanent commons.

In the country districts, reserves extending often over several thousand acres, have been proclaimed as temporary commons, whilst considerable areas have been from time to time dedicated as permanent commons attached to inland townships, which are otherwise well provided with parks and reserves within their boundaries.

PART XXIII.

Social Condition and Charities.

IT will seen from the foregoing pages that the material prosperity of New South Wales compares favourably with that of any other country, however fortunate may be its lot. But in one particular this Colony, in common with all the provinces of Australia, differs greatly from other countries, especially those of the Old World. Wealth is widely distributed, and the contrast between rich and poor, which seems so peculiar a phase of old-world civilizations, finds no parallel in these southern lands. That there is poverty in the colonies is undeniable, but no one in Australia is born to poverty, and that hereditary pauper class, which forms so grave a menace to the freedom of many states, has, therefore, no existence here.

Propertied classes.

It is estimated that in the United Kingdom six persons in every hundred possess property to the amount of £100; whereas in this Colony 12 per cent. of the population have property. This bare statement shows the vast difference in the conditions of life in Australia and in the richest country of Europe. No poor rate is levied in this Colony, nor is such needed; for although it may happen that from time to time the assistance of the State is claimed by, and granted to, able-bodied men who are unable to find employment, that assistance takes the form of wages paid for work specially provided by the State to meet a condition of the labour market which is certainly abnormal.

State assistance to charities.

The chief efforts of the State, as regards charity, are directed towards the rescue of the young from criminal companionship and temptation to crime, the support of the aged and infirm, the care of the imbecile or insane, and the subsidising of private charity, for the cure of the sick and injured, and the amelioration of want.

Supervision of expenditure.

Even where the State grants aid for philanthropic purposes, the management of the institutions supervising the expenditure is in private hands; and in addition to State-aided institutions there are numerous private charities, whose efforts for the relief of those whom penury, sickness, or misfortune has afflicted are beyond all praise.

The rescue of the young from crime is attempted in two ways—first, by means of the State Children's Relief Board, which takes care of children who have been abandoned by their natural guardians, or who are likely, from the poverty or incapacity of their parents, to be so neglected as to render them liable to lapse into crime; and, secondly, by sequestering children who have already committed crime, or whose parents or guardians find themselves unable to control them.

Necessity for hospitals.

In the part of this volume dealing with mortality it has been pointed out that the number of deaths caused by accident is very great. This arises from the peculiar nature of the occupations in which a large proportion of the adult male population is employed. Though New South Wales has long been settled, its resources are by no means developed, and very many men are at work far away from the home comforts of everyday life, and from home attendance in case of sickness or injury. Hospitals are therefore absolutely essential under the conditions of life in the country districts of the Colony, and they are accordingly found in every important country town. At the close of the year 1889 there were in operation in the Colony 84 hospitals or infirmaries, all of which, with the exception of St. Vincent's Hospital in Sydney, were assisted by the State.

Accommodation in hospitals.

In these hospitals accommodation was provided in 388 wards or dormitories, having a total capacity of 2,935,602 cubic feet, so

Persons under treatment.

that the average air space to each dormitory was 7,566 cubic feet. There were 2,181 beds, and the average air space to each patient was a minimum of 1,350 cubic feet; but as the hospitals are rarely filled to the limit of their accommodation, the air space to each patient was as a rule greater than the minimum just stated. During the year 16,865 persons were under treatment as indoor patients. Of this number 1,233 remained from the previous year, and 15,632 were admitted during 1889. There were discharged 13,838 persons, either as cured or relieved, or at their own request, and 239 as past all human assistance, while 1,477 died. The number remaining in hospital at the close of the year was therefore 1,311. The following statement shows the number of admissions, discharges, and deaths for the past eleven years:—

Number of Cases treated in Hospitals.

Year.	Total Patients under Treatment.	Number Discharged as Cured, &c.	Deaths.		Number of Patients at the close of Year.
			Number.	Per cent.	
1879	7,560	6,021	755	9·98	784
1880	8,315	6,656	847	10·18	812
1881	9,136	7,275	946	10·35	915
1882	8,445	6,855	894	10·58	696
1883	8,245	6,659	796	9·65	790
1884	9,318	7,375	952	10·21	991
1885	12,793	10,449	1,329	10·38	1,015
1886	13,115	10,825	1,249	9·52	1,041
1887	13,438	11,140	1,190	8·85	1,108
1888	15,176	12,569	1,424	9·38	1,233
1889	16,865	13,535	1,477	8·76	1,311

Average number of hospital cases.

The number remaining at the close of the year may be taken as representing the average number resident. It will be seen from the preceding table that the increase has been fairly regular, so that the proportion of the population to be found in hospitals is about the same in each year, and averages 1·16 per thousand. The length of time during which patients remain under treatment has not been exactly determined; but as far as the information extends it would appear the average is about 28 days for all hospitals. In the Sydney Hospital the average stay of patients during the year 1889 was 26·12 days. It is interesting to note that patients received under orders from the Government, remained in hospital on the average longer than those paying for or contributing towards their own support.

Death rates in hospitals.

The death rate per 100 persons under treatment during the past ten years was 9·67, while the rate for 1889 was 8·76 or ·91 below the decennial average. The rate for each year will be found in the preceding table. The death rate of hospitals in New South Wales, compared with Europe, is undoubtedly very high. The number of fatal cases is swollen by the inclusion of the deaths of persons already moribund when admitted, and of persons in the last stage of phthisis. It has elsewhere been pointed out that deaths from accidents form a very considerable proportion of the total deaths registered, a circumstance due to the nature of the occupations of the people, and the dangers incidental to pioneering enterprise. A large majority of the accidents that occur are treated in the hospitals; and, indeed, these institutions, especially in country districts, are for the most part maintained for the treatment of surgical cases. When these circumstances are taken into consideration the cause of the apparent excess of deaths in the hospitals of the Colony will be at once understood.

Vote for pauper patients.

The amount voted by the Legislature for the maintenance of sick paupers in the year 1889 was £9,817 10s. 6d., which was distributed thus:—Sydney Hospital (including Moorcliff) for the maintenance of pauper patients, £6,560 18s.; Prince Alfred Hospital, ditto, £3,190 16s.; Railway Department for the carriage of pauper patients, £53 6s. 6d.; incidental expenses, £12 10s. During the year there were 4,753 applications for admission into the metropolitan hospitals, of which number 2,648 were granted; the other cases received recommendations for admission to the Asylums for the Infirm and Destitute, orders for out-door hospital treatment, or were refused as unfit subjects for

Cost to the State.

State relief. 1,147 persons were admitted into these hospitals a urgent cases, the remainder were admitted on recommendatio from the hospital admission depôt. During the past three ye the Sydney Hospital, including the Moorcliff branch for Ophth mic cases, has received from the Government for the maintenan of sick paupers, £17,300, or an average of £5,766 a year, an the Prince Alfred Hospital, £14,820, or an average of £4,94 a year. These sums are in addition to the £4,000 a year given a a conditional endowment to each of these hospitals, and £400 a year which the Government pays as the rent of Moorcliff. Th total sum paid by the Government to the Sydney and Prin Alfred Hospitals during the last three years, exclusive of subsidie for special purposes, was £57,320, or an average of nearly £19,10 a year. The expenses of the Coast Hospital, which are bor entirely by the Government, average £9,735 annually for th same period, so that about £30,000 a year is spent by the Government in medical relief in the metropolis, in addition to grants t suburban and country hospitals, payments for attendance o aborigines, expenses attending special outbreaks of disease i country districts, which are met from the general medical vote, and the maintenance in the asylums for the Infirm and Destitut of a large number of chronic and incurable hospital cases.

Outdoor relief

No exact information is to hand respecting the outdoor relief afforded by hospitals, this form of charity not being so important as indoor relief; nevertheless, the number of attendances during 1889 was 49,208, and estimating four attendances to each person, there were relieved 12,302 persons.

Expenditure on hospitals.

Omitting from consideration the Government establishment at Little Bay, the expenditure in 1889 of all the hospitals of the Colony for purposes other than building, repairs, and out-door relief was £104,110, representing an average of £79 8s. 3d. per patient resident, or for each bed occupied. This sum is somewhat in excess of the truth, as full deduction cannot be made for out-patients. The average cost per patient treated was £6 13s. 2d. The subscriptions received from private persons amounted to £39,074, and the miscellaneous receipts, including payments by patients, were £32,488, in all £71,562 from private sources and from patients. From Government the sum of £61,399 was received, so that the total revenue of hospitals from all sources was £132,961. The following statement shows the revenue and expenditure of these institutions for the year 1889 :—

Revenue of hospitals.

Revenue and Expenditure of Hospitals.

	Metropolitan.	Country.	Total
Receipts—	£	£	£
Government Aid............	30,438	30,961	61,399
Private Contributions.....	20,670	30,300	50,970
Other sources...............	10,690	9,902	20,592
Total receipts.........	61,798	71,163	132,961
Expenditure—			
Building and Repairs......	7,008	24,289	31,297
Maintenance	48,092	41,923	90,015
Miscellaneous	5,153	10,122	15,275
Total expenditure...	60,253	76,334	136,587

The expenditure in connection with the Little Bay Hospital has not been included above, being entirely in the hands of the Government. At this hospital 1,817 patients were treated during the year, including 13 lepers, or an average of 199 patients per day. The average stay in hospital was 40 days. There were 99 deaths, and 1,369 patients were discharged cured during the year. The cost of this institution was £11,729, so that the total expenditure of the State on hospitals amounted to £73,128, and the gross expenditure by the Government upon all hospitals

Total expenditure by the State.

and asylums, with the exception of asylums for the insane, was £147,060. This sum includes £24,595 to the State Children's Relief Department, £13,692 paid to support the asylum for old men at Liverpool, £8,565 for the asylum for aged and infirm women at Newington, Parramatta River; £19,995 for the two asylums at Parramatta, and £7,085 for the Benevolent Asylum, Sydney. In these five last-mentioned asylums, the number of wards or dormitories was 109, with a total capacity of 1,452,834 cubic feet, giving an average air space of 13,338 cubic feet to each dormitory. There were 2,538 beds; the average air space to each patient was therefore 572 cubic feet. The number of inmates in each institution will be found in a table on pages 832 and 833, but in addition, considerable aid was extended to the outside poor. Apart from medical advice and medicines, out-door relief consists largely of supplies of provisions. Information is not to hand for the full extent of the relief thus afforded at all institutions, but the goods gratuitously distributed at the Benevolent Asylum, Sydney, during the year were as follows:—Bread, 216,254 lb.; flour, 70,233 lb.; meat, 36,924 lb.; tea, 7,789 lb.; sugar, 31,449 lb.; sago, 3,695 lb.; rice, 11,293 lb.; oatmeal, 5,567 lb.; arrowroot, 112 lb.; raisins, 634 lb.; and milk, 164 quarts. Boots, blankets, flannel and other drapery goods, formed portion of the bounty distributed; and in addition to this a sum of money was granted in payment of rent allowances, so that many of the needy were assisted by the helping hand of this deserving charity in their own homes.

Accommodation in Asylums.

Benevolent Asylum, Sydney.

The Infants' Home, Ashfield; the Hospital for sick children, Glebe; the Institution for the deaf and dumb, and the blind, Newtown, besides other institutions in different parts of the Colony, receive help from the State; but they are maintained principally by private contributions. The management of these, and, indeed, of almost all institutions for the relief of the sick, is in the hands of committees elected by persons subscribing towards their

Number of Persons in various Charitable Institutions, mainly supported by Private Charity, at the end of each year, 1880–89.

Institution.	1880.		1881.		1882.		1883.		1884.		1885.		1886.		1887.		1888.		1889.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Industrial Blind Institution, Sydney	...	...	...	...	9	...	10	...	20	...	20	...	21	...	22	...	25	...	30	...
Industrial Home for Blind Women, Petersham	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	14	...	17	...	14
Consumptives' Home, Picton	...	...	...	...	...	...	12	4	12	5	13	4	19	8	22	10	24	8	21	9
House of the Good Samaritan	...	94	...	49	...	56	...	84	...	62	...	64	...	80	...	66	...	58	...	63
Sydney Female Refuge	...	37	...	40	...	47	...	37	...	43	...	44	...	48	...	44	...	39	...	51
Hospital for Sick Children, Glebe	8	7	14	11	16	23	9	12	20	17	21	22	19	15	20	19	20	20	15	16
Infants' Home, Ashfield (women)	...	...	...	...	...	20	...	12	...	23	...	11	...	19	...	22	...	22	...	*
Infants' Home, Ashfield (children)	30	16	30	17	30	20	20	11	34	20	19	13	20	15	8	15	28	28	59	59
†City Night Refuge, &c.	20	...	20	...	20	...	20	...	20	...	19	...	18	...	18	...	18	...	18	...
Total	58	154	64	117	75	166	71	160	106	170	92	158	97	185	90	184	115	192	143	212

* Information not supplied.

† Meals given during the year ending 30th June, 1889, 105,247; shelter provided in 41,621 instances; daily average, 290 meals, and 112 nightly shelters—representing 9,550 distinct persons supplied with dinner, and 6,010 separate persons afforded shelter for the night followed by breakfast. The inmates mentioned in this table are only those usually retained about the establishment.

Charitable asylums.

Besides hospitals properly so called, there exist various institutions for the reception of fallen women, for the treatment of the blind, and the deaf and dumb; for destitute women, for casual aid to indigent persons, for the help of discharged prisoners, and for many other purposes which rouse the charity of the people. Exact figures respecting every institution have not been procurable. The foregoing table gives the number of adult persons remaining at the close of 1889 in some of the institutions named, and may be taken as representing the average for the year. The figures for the City Night Refuge and Soup Kitchen show only the number of persons usually retained about the establishment. There were 105,247 meals given during the year ending 30th June, 1890, at the Refuge, and shelter was provided in 41,621 instances, the daily average being 290 meals, and 112 nightly shelters.

City Night Refuge.

Destitute children.

The problem of dealing with destitute children and those liable from their environment to become criminal is naturally surrounded with very great difficulty, and its solution was attempted many years ago by the establishment of the orphanages at Parramatta, and the destitute children's asylum at Randwick, as well as the Vernon Training Ship for boys, and the Biloela Reformatory and Industrial School for girls. The system of crowding children in large establishments was rightly considered as open to many grave objections, and in 1880 a scheme of separate treatment was inaugurated. Accordingly an Act was passed by the Legislature, empowering the formation of a Board, to whose charge the destitute or neglected children of the Colony were entrusted. The Board was empowered to take children from the various institutions, and deal with them in certain specified ways.

State Children's Relief Board.

During the nine years ending 5th April, 1890, the number of children placed out by the State Children's Relief Board had reased to 3,322; of these 1,132 were reclaimed by their relatives friends, or otherwise discharged, and 158 were adopted prinpally by persons possessing no children of their own. On reaching e age of 12 years, children are eligible to be apprenticed, if they re physically fit therefor, and 756 apprenticeships have been sancioned. The majority of the girls have been placed at domestic ervice, and about two-thirds of the boys have been apprenticed to farmers. During last year 397 children were boarded out, the Government paying certain persons, deemed eligible, sums varying from 5s. to 7s. per week for the maintenance of those put under their charge. The Board exercises a strict watch over all children in its care, and cases of neglect or ill-treatment have been very infrequent. The remaining children in April last were distributed as follows :—Eight in the Central Home, 4 in Hospitals, and 117 consigned to Cottage Homes for invalids, of which there are two at Parramatta and five at Mittagong. Although a considerable number (790) passed through the Central Home at Paddington during last year, the system in force provides for their speedy removal to the country; and so the average daily number of inmates at that institution was only eight. In the annual reports of the State Children's Relief Department much interesting information is given concerning the problem of how to cope successfully with the difficulty of maintaining State children; and, after ten years' experience of the boarding-out system in this Colony, it is claimed that when fairly tested the advantages that may be realized thereby, are much greater than those under the system of aggregating children in asylums. The deaths of seven children occurred during the year, and, allowing for those removed from the supervision of the Board, there remained at the close of 1889 2,263 children under its control, of whom 1,377 were supported by the State.

Supervision of children.

Number of children under control.

The number of children under the control of the Board has increased materially since 1880, as will be seen from the following figures :—

Year.	Boys.	Girls.	Total.	Year.	Boys.	Girls.	Total.
1880	20	32	52	1885	749	575	1,315
1881	34	46	80	1886	1,031	668	1,699
1882	96	149	245	1887	1,179	749	1,928
1883	198	256	454	1888	1,275	818	2,093
1884	482	385	867	1889	1,377	886	2,263

Ages of children.

The ages of children placed out since the inauguration of the system of relief were—

Year.		Year.	
Under 1	20	8 to 9	408
1 to 2	59	9 to 10	387
2 to 3	199	10 to 11	329
3 to 4	260	11 to 12	262
4 to 5	269	Over 12	250
5 to 6	263		
6 to 7	305	Total	3,322
7 to 8	311		

The largest number of children dealt with by the Board have been received from the Benevolent Asylum, Sydney, 2,212 having been transferred up to the end of 1889; from the Randwick Asylum 305, and from the Orphan Schools, Parramatta, 362 children were taken. The orphan schools were closed in September, 1886, and the children who would formerly have been sent to them are now taken charge of by the Board. The remaining children were removed from other public institutions and hospitals; from the Vernon, 201; from the Infants' Home, Ashfield, 60; from Industrial School, Parramatta, 72; from Little Bay Hospital, 26; from Benevolent Asylum, Newcastle, 40; and other institutions, 44; making a total of 3,322 as aforesaid. The amount expended by the Government on the State Children's Relief Department during the year was £24,517.

Operations of Board successful.

The operations of the Board must be held to be extremely successful, as not only are the children individually more satisfactorily treated than could be the case in crowded institutions, but the number becoming a charge on the State is now proportionally less than formerly was the case, and the admirable system of relief organized by the Board bids fair to solve the difficult problem of juvenile destitution and juvenile crime. The number of destitute children, including those detained at Biloela (now transferred to Parramatta) and on the Vernon, and in the various asylums, during each of the past fourteen years, was :—

Destitute Children.

Year.	Number.	Year.	Number.
1876	1,546	1883	1,861
1877	1,573	1884	1,787
1878	1,582	1885	1,856
1879	1,726	1886	1,866
1880	1,742	1887	1,973
1881	1,817	1888	2,091
1882	1,858	1889	2,218

The increase of 672 during the period bears but a small proportion of what might have been expected from the large increase in the juvenile population of the Colony.

Reformatories.

Three institutions are maintained at the charge of the State for the reformation of children. The Shaftesbury Reformatory, for girls who are in danger of becoming habitual criminals ; the Parramatta Industrial School, for girls of more tender years ; and the Vernon training-ship, for boys. No reformatory exclusively for criminal boys exists ; but the Vernon serves the double purpose of training-school and reformatory. The
these institutions during the past t

Children in Reforma

Year.	Vernon.	Biloela (now Parramatta).
1879	124	115
1880	148	117
1881	177	130
1882	186	130
1883	213	119
1884	202	105
1885	202	106
1886	205	90
1887	203	90
1888	209	93
1889	227	87

Industrial School.

During 1887 the industrial school fo
Biloela, Cockatoo Island, to the buildi
the Roman Catholic Orphan School, Par

The numbers of destitute children in
tions during the last eleven years were a

Children in Asylu

Year.	Orphan Schools.	Randwick Asylum.	Benevolent Asylum.
1879	574	641	191
1880	552	639	177
1881	546	671	147
1882	442	643	156
1883	339	545	161
1884	150	352	149
1885	108	199	122
1886	*	254	130
1887	....	267	101
1888	....	246	168
1889	....	216	151

* Orphanages closed in this y

Destitute adults.

The number of destitute adults wholl
the State as inmates of the various asyl
close of the year 1889 was 2,500, of w
588 women. The great majority of t
persons of very advanced years and unab
of the Benevolent Asylum, Sydney, ho

to this rule, as a large proportion of them are destitute women who use the institution as a lying-in hospital. The number of men and women in the various institutions with the ratio per 1,000 of adult population at the close of each of the past 11 years was:— Adult paupers.

Adults in Benevolent Asylums.

Year.	Males.	Females.	Total.	Per 1,000 of Adult Population.		
				Male.	Female.	Total.
1879	1,044	368	1,412	4·28	2·00	3·30
1880	994	382	1,376	3·89	1·99	3·08
1881	985	375	1,360	3·65	1·88	2·89
1882	980	402	1,382	3·50	1·92	2·82
1883	1,282	408	1,690	4·31	1·85	3·26
1884	1,363	435	1,798	4·33	1·86	3·28
1885	1,366	400	1,766	4·06	1·63	3·03
1886	1,504	448	1,952	4·25	1·74	3·21
1887	1,711	471	2,182	4·68	1·76	3·45
1888	1,820	521	2,341	4·77	1·88	3·55
1889	1,912	588	2,500	4·85	2·04	3·67

The following are the number of adults remaining in the various Benevolent Asylums at the close of the years 1879 to 1889 :—

Adults in the various Asylums.

Year.	Sydney (Pitt-street).	Newington.	Liverpool.	Parramatta.		Maitland.	Newcastle.	Singleton.	Total.
				George-street.	Macquarie-st.				
1879	92	262	756	254	18	13	...	17	1,412
1880	77	288	707	259	22	12	...	11	1,376
1881	73	277	724	237	20	13	...	16	1,360
1882	88	284	733	219	30	13	...	15	1,382
1883	107	292	724	267	268	16	...	16	1,690
1884	115	312	724	339	276	16	...	16	1,798
1885	88	304	710	342	292	16	...	14	1,766
1886	83	331	741	421	297	35	27	17	1,952
1887	77	366	767	644	258	35	20	15	2,182
1888	97	397	778	721	286	36	26	...	2,341
1889	83	454	801	771	283	37	32	...	2,500

The Liverpool and Parramatta (2) Asylums are homes for males, and the Newington and Sydney Benevolent Asylums for females. The Parramatta Cottage Homes are for old and indigent married couples, the inmates last year, since March 13, numbered 39, and are included in the total of 2,500 just given.

Adding together the numbers of adults and children in order to show the proportion, as compared with the whole population, of those dependent on the State for support, the ratios per 1,000 for the last 11 years, are found to be as follows :—

Paupers.

Year.	Children.	Adults.	Total.	Per 1,000 of		
				Children under 15 years.	Adult Population.	Total Population.
1879	1,726	1,412	3,138	6·13	3·30	4·42
1880	1,742	1,376	3,118	5·91	3·08	4·20
1881	1,817	1,360	3,177	5·88	2·89	4·08
1882	1,858	1,382	3,240	5·78	2·82	3·99
1883	1,861	1,690	3,551	5·49	3·26	4·14
1884	1,787	1,798	3,585	5·01	3·28	3·97
1885	1,856	1,766	3,622	4·94	3·03	3·78
1886	1,866	1,952	3,818	4·74	3·21	3·81
1887	1,973	2,182	4,155	4·81	3·45	3·98
1888	2,091	2,341	4,432	4·90	3·55	4·08
1889	2,218	2,500	4,718	5·04	3·67	4·20

Increase due to depression.

The increase noticeable during some years is probably due to the defective seasons experienced from time to time throughout the Colony, and the consequent closing of avenues of income which remained open to some of these old people, in more favourable times. The proportion of paupers to the whole population shown in the above table will appear extremely small compared with that of other countries. The proportion of population in the United Kingdom dependent upon the State for support was, at the beginning of the year 1888 :—

England	28·8	per thousand.
Scotland	23·5	,,
Ireland	23·8	,,
United Kingdom	27·5	,,

as against 4·2 per thousand in this Colony, a state of things plainly illustrating the happier lot of the people of Australia.

Treatment of insane.

The treatment of the insane has been dealt with under the head of Vital Statistics. The average number of insane persons resident in hospital during the year was 2,785, while the total number under care was 3,384. These numbers include those resident at

Cost of asylums for insane.

the Private Asylum. The various institutions for the insane in the Colony which are sustained by the Government cost the State during 1889 the sum of £92,834, equivalent to a weekly cost of 11s. 3¼d. for each patient, and an annual expense per head of population of 1s. 10½d. This sum is quite apart from private collections, which amounted to £11,192, so that the actual expenditure on the insane in Government Asylums during the year was £104,026, which equals a weekly cost of 12s. 9¾d. for each patient. The treatment meted out to the insane is that dictated by the greatest humanity, and the hospitals are fitted with all the conveniences and appliances which modern science points out as most calculated to mitigate or remove the affliction under which these unfortunates labour.

Aborigines Protection Board.

A Board is in existence for the protection of the Aborigines, and in order that its operations in the way of instruction and relief in various forms should be successfully carried out, the amount voted last year was £7,094. The Aborigines are referred to at length in the part dealing with population and vital statistics.

Public and private expenditure in charity.

The total expenditure of the State in connection with all forms of relief and in aid of hospitals and other charitable institutions amounted in 1889 to £246,048; adding to this the amount of private subscriptions, &c., the poor and the unfortunate have benefited during the year to the extent of over £300,000. This sum, though not excessive in proportion to the population, may yet appear large in view of the general wealth of the Colony, which should preclude the necessity of so many seeking assistance; and there is the risk that the charitable institutions may encourage the growth of the pauper element, for while free quarters and free food are so accessible those who are disinclined to work are tempted to live at the public expense.

Material and intellectual progress.

It will have been gathered from the foregoing pages that in its anxiety to foster material progress, the State has not overlooked the care of those whom old age or misfortune has afflicted, nor

has that psychical progress been negl
advancement would be incomplete.
the spread of education and enligh
toleration meted out to all forms of
respects to be desired.

Intellectual progress.

The intellectual progress of the
rapid than their material advancem
been confined to those sciences whic
prosperity. The State, conscious o
softening the minds and manners of
great liberality the establishment of
In spite of their busy lives, the coloni
done something towards increasing
English literature, and with less stir
building-up of a nation—and the exis
fruits of the care now lavished upo
found in literature worthy of Austral

Destiny of Australia.

More truly can it be said of the A
people that their destiny is in their o
most happily situated. Unlike mo
danger from no enemies upon its bor
Government should ever engage in
liberties of its people. Its colonizatio
a future free from old world strifes
thus, happy in its situation and mo
may await its future in calm confiden

INDEX.

A. A. Company's Coal Monopoly, 94
Abercrombie River, 52
Abolition of Transportation, 27
Aborigines, 421
  Crimes and Misfortunes of, 424
  Decrease of, 422
  Numbers of, 422
  Protection Board, 835
Absence of Crime in Native-born, 594
Accidental Deaths, 476
Accidents in Coal-mines, 100
  in Copper-mines, 89
  in Gold-mines, 79
  in Silver-mines, 84
  in Tin-mines, 86
  on Railways, 572
  on Tramways, 576
Accommodation in Hospitals, 821
  in Prisons, 612
Accouchements in Benevolent Asylum, 447
Accumulated Surplus, 683
Actual and Nominal Interest, 693
Adaptability of Soil, 256
Administrations and Probates, 629
Administrator of the Government, 635
Advances from Surplus, 684, 689
  made by Banks, 719
  on Growing Crops, 729
Adults in Asylums, 833
Advantages of New South Wales, 404
Affiliated Colleges, 761
Ages of Insane, 487
  of Persons Arrested, 593
  of Prisoners in Gaol, 615
  of the People, 427, 428
Aggregation of Holdings, 251
Agreements Validating Act, 532
Agricultural Cultivation, 259
  Department, 266
  Implements, 313
  Produce, 268
  Production, 256
Agriculture Increasing, 272
  Hands employed in, 496
Aid to Scientific Societies, 769
Alcohol consumed in each Colony, 391
  consumed in other Colonies, 391
Ale and Beer Duty, 216
Alienated Area, 237
Alienation Act of 1861, 225
  Total, 239
Allegiance, Oath of, 649
Alluvial Deposits, 258
  Gold, 71, 75
  Mining, decline of, 76
Alluvium—Yield of, 78
Amount of private indebtedness, 731
  of Public Debt, 687, 688
  of Wool Clip, 329
  spent on Primary Education, 751
Ana branches of the Murray, 51
Analysis of Coal, 106
  of Shale, 108
Annual leases, 234
  cast of Cattle, 349
  cast of Sheep, 356
  Birth rate, 440, 443
  Death rate, 451
  Marriage rate, 430
  Revenue from Leases, 671
Anti-Chinese Legislation, 420
Antimony, 92
Anti-Transportation Movement, 27
Apparent Consumption of Breadstuffs, 282
  Production of Breadstuffs, 282
Appeal to Privy Council, 628
Apprehensions—Return of, 603
Aquatic Birds, 132
Area—alienated, 237
  and yield of Barley, 298
  and yield of Maize, 291
  and yield of Oats, 293
  of Australasian Colonies, 321
  of Enclosed Lands, 242
  of Holdings, 242
  of New South Wales, 34
  of Orangeries, 312
  of Orchards, 313
  of the Metropolis, 414
  Unalienated, 237
  under cultivation, 259
  under Grape Vines, 309
  under Potatoes, 301
  under principal Crops, 267

Area under Sugar-cane, 304
    under Tobacco, 302
    under Wheat, 270, 271, 272
Areas—small in Settled Districts, 239
Arrests, 590, 591
    for Drunkenness, 598, 600, 601
    for Drunkenness in towns, 600
    percentage of, 594
Arrivals and departures by sea, 406
Artesian Water, 64
    Well Leases, 234
Art Gallery, 775
Artillery—Naval Volunteer, 788
    Permanent, 784
    Volunteer, 785
Ash tree, 117
Assembly, Legislative, 647
    Elections for, 650
    Payment of Members of, 649
Assets of Banks, 713, 721
    of Building Societies, 727
    of City of Sydney, 810
    of Municipalities, 811
Assisted Immigration, 404, 405
Assurance Business, analysis of, 736
Astronomer, Government, 770
Asylums, accommodation at, 826
Atkins, Judge Advocate, 15, 17
Attendance at Divine Service, 779
    at Private Schools, 753
    at Public Schools, 748
    at Sunday Schools, 782
Auction Sales, Crown Lands, 234
    Limitation of, 667
    Revenue from, 666
Authority to dig for Gold, 77
Australasian Banks—Assets and
        Liabilities, 714, 721
    Bank Deposits, 715
    Bank Returns, 722
    Birth Rate, 440
    Cities, population of, 411
    Colonies, Population of, 399, 402, 403
    Consumption of Foods, 377
    Consumption of Intoxicants, 391, 599
    Convictions after Trial, 607
    Death Rate, 451
    Drunkenness, 598
    Exports, 168
    Gold Exports and Imports, 738
    Gold Exports exceed Imports, 739
    Gold Produced, 79
    Insanity, 485
    Loans Offered in London, 692
    Manufactories, 497
    Marriage Rate, 431
    Population, 403

Banks—Capital and deposits in, 721
 Capital and profit of, 712
 Deposits, 714, 724
 Deposits, Australasian, 715, 716
 Increased resources of, 713
 Money deposited in, 725
 Note circulation of, 719
 of the World, Coin and Currency, 718
 Operating in N. S. Wales, 712
 Post Office Savings, 588
 Reserves and Liabilities, 716
 Reserves of Coin and Bullion, 717
 Returns no Test of Stability, 714
 Savings, 725, 726
Banks, Sir Joseph, 3
Baptists, 781
Barcaldine Artesian Well, 64
Bark-stripping, 128
Barley, 297
 Average Production of, 298
 Cultivated for Grain, 298
 Cultivation of, 297
 for Green Food, 298
 Quantity Imported, 298
Barrier Range Silver Mines, 80
Barwon River, 53
Bass—Explorations of, 538
Bateman's Bay, 49
Bathurst, Lake, 40
 Plains Discovered, 538
 Road Constructed, 18
Beech—Native, 118
Beer, Australian—Strength of, 392
 Consumption of, 388
 Duty on, 216
 Imported, 509
Bega River, 45
Belgium—Trade with, 205
 Wool purchased by, 205
Bellinger River, 41
Belubula River, 52
Benefactions to University, 761
Benevolent Asylums, 447, 826
Bequest of Mr. Challis, 762
Beverages—Consumption of, 375
Billabong Creek, 51
Birds, 131
 Aquatic, 132
Birthplaces of Immigrants, 405
 of Insane Patients, 486
 of Persons Apprehended, 595
 of Prisoners, 620
 of the People, 407
Birth-rate—Annual, 443
 Australasian, 440
 Mean Annual, 440
 of other Countries, 440
Birth-rate per Marriage, 439
Births—Excess over Deaths, 444
 Increase of, 441
 Illegitimate, 445
 Illegitimate—percentage of, 449
 in each Colony, 441
 most numerous in Spring, 442
 of Males exceed Females, 441
Bismuth, 93.
Blaxland's Explorations, 18, 538
Bligh, Governor, 14
 Deposed, 17
Bloodwood, 116
Blue Gum, 115
Blue Mountains, 37
Bogan River, 54
Bog Iron, 89, 90
Boiling-down introduced, 24
Boorowa River, 52
Books in Free Library, 772
Boot Factories, 507
Boring Operations, 64
Botany Bay, 48
 Discovered, 3
 First Fleet in, 7
Boundaries of New South Wales, 34
Bounty—Mutiny of, 14
Bourke—Artesian Bore near, 65
Bourke, Sir Richard, 21
Box Tree, 114
Breadstuffs—Average production, 284
 Consumed in New South Wales, 283
 Consumed per Head, 285
 Imported, 285
 Produced and Consumed, 282
Breeds of Sheep, 324
Breweries, 509
Bridges and Culverts, 541
Brisbane—City of, Founded, 19
Brisbane, Sir Thomas, 19
Brisbane Water, 47
British and Foreign Shipping Trade, 143, 144
 Capital Invested, 697
 Trade, 185
Broken Bay, 47
Broken Hill Proprietary Co., 81
 Silver Mines, 80
 Railway, 547, 567
Bronze Coin, 708
Bronze-winged Pigeons, 133
Broughton Islands, 50
Brown Hematite, 90
Brunswick River, 40
Brush Forests, 117
Building Materials, 111
 Societies, 727

Bulli Disaster, 101
Bullion Exported, 176
Bushranging Act, 20
Butter and Cheese made, 360, 361
  Consumption of, 376
  Districts Producing, 361
Burglary, Convictions for, 621
Byron Bay, 46

Cable to New Zealand, 577
Cabs and Public Vehicles, 576
Cainozoic Formation, 65
Candle Factories, 509
Capital, British Invested, 697
  Convictions, 610, 611
  Expended on Railways, 547
  Expended on Tramways, 569
  Punishment, 609
  Value of Municipalities, 799
  Value of each Municipality, 800-805
Capitals connected by Rail, 549
Carboniferous deposits, 62
Carpentaria Discovered, 2
Castle Hill Revolt, 13
Castlereagh River, 54
Cast of Cattle, 339, 349
  Sheep, 356
Cats, Native, 130
Cattle and Sheep, Export of, 179
  Area per Head of, 348
  Breeding, 337
  Breeds of, Improving, 339
  Cast of, 339, 349
  Certain Colonies Adapted for, 322
  Classification of, 339
  Crossbreeds of, 339
  Discovered Wild, 11
  Diseases in, 369
  Irregular Increase of, 348
  Loss of from Droughts, 338, 347
  Number of, Declining, 337
  Number of in Australasia, 344
  of the World, 340
  Principal Breeds of, 338
  Pure-bred, Imported, 340
  Rate of Increase in, 345
  Sheep Substituted for, 337
Causes of Death, 468
Causation of Insanity, 489
Cavalry, 786
Caves of New South Wales, 62
Cawndilla Lake, 56
Cedar Trees, 117
Centennial Park, 819
Central Division, 230
Centralisation of Population, 406

limate of Sydney, 56
  of the Tablelands, 57
  of the Western Districts, 58.
  Remarkably Dry, 58
  Suited to Tobacco, 302
lip Wool—Value of, 335
lyde River, 45
oal, 94
  Amount raised, 96
  Analysis of, 106
  Area of, 95
  As a Heat Producer, 105
  Average Price of, 96, 101
  Consumption per Head, 103
  Countries exported to, 104
  Discovery of, 94
  Export of, 104
  Export of to Victoria, 189
  Local Consumption of, 103, 104
  Miners, Earnings of, 97
  Miners, Number of, 69, 95
  Mines, Accidents in, 100, 101
  Mines, Northern, 97
  Mines, Number of, 95
  Mines, Southern, 98
  Mines Western, 99
  Monoply by A.A. Co., 94
  Mountain, 95
  Output of, 94
  Output per Miner, 96
  Price Fluctuating, 102
  Seams, 63
  Total Production of, 95
  Value of, 101
  Wealth of the Colony in, 105
Coarse-woolled Sheep, 334
Coastal Region, 40
  Valleys, Rich Soil of, 256
Cobalt, 93
Cobar Copper Mines, 88
Coffee, Consumption of, 375
Coila, Lake, 49
Coin and Paper Circulation, 711
  Current in Colony, 706
  Held by Banks, 710
  in Circulation, 707, 710
  Silver and Bronze issued, 709
  Silver withdrawn, 709
  Standard Weight of, 707
  Issued by Mint, 708
Colleges Affiliated to University, 761
  Denominational, 765
Colo River, 44
Colonial Credits, 694
  Pine, 118
  Stock, selling price of, 693
  Sugar Company, 513
Colonies not suited for Cattle, 322
Colony Founded in 1788, 9
Combing and Clothing Wool, 334
Commerce and Shipping, 140
  Early Records of, 140
Committals and Convictions, 607
  for Trials Decreasing, 605
Commons, 819
Comparative cost of Education, 751
  Size of Holdings, 239
Comparison of Australian Ports, 150
Compulsory Education, 742, 745
Commercial Crisis, 23
Conditional Leaseholds, 229, 230
  Purchases, 229, 230
  Purchases without residence, 229
  Sales, Revenue from, 668
Condition of Servants improved, 386
Conditions of Fencing, 230
Congregationalists, 781
Constitution Act framed, 30
  Act adopted, 31
  and Government, 633
  of 1885, 633
  of the University, 757
Construction of Great Western Road, 539
Consumption of Alcohol in Australasia, 391
  of Alcohol in other countries, 392
  of Coal per head, 103
  of Food, 378
  of Food in Australasia, 376
  of Food, excessive, 379
  of Intoxicants, 387, 599
  of Potatoes, 375
  of Spirits, per head, 601
  of Sugar, 375
  of Tea and Coffee, 375
  of Tobacco, 303, 377
  of Wheat, 282, 285
Constitutional Diseases, 469, 472
Contractors' Employés, 528
Convictions and Committals, 606
  after Trial, 609
  in Australasian Colonies, 609
  in Magistrates' Courts, 606
  in Superior Courts, 607
  Summary, 605
  Increasing, 606
  Percentage of, 608
  Previous, 624
Convicts—Number Sent to Colony, 23
  Refused a Landing, 26
Convocation—University, 759
Cook, Captain James, 3
  Anchors in Botany Bay, 3
  Encounter with Aborigines, 4

Cook, Capt., Nearly Wrecked, 5
  Sees Port Jackson, 5
Copper, 86
  French Syndicate in, 87
  Export of, 89
  Miners, Number of, 69
  Mines, Accidents in, 89
  Mines, Principal, 88
  Mining, Future of, 88
  Price of, 87
  Principal Deposits of, 88
  Produce of Colony, 89
Copyright, 534
Cordeaux River, 44
Cost of Carriage by Rail and Road, 542
  of Defence, 789
  of Education per Scholar, 749, 752
  of Education in the Colonies, 750
  of Food, 372
  of Food and Beverages, 383
  of Insane Patients, 491
  of Living, 380
  of Local Public Works, 818
  of Postal Department, 585
  of Prospect Reservoir, 813
  of Railway Construction, 555
  of Technical Education, 765
Council—Executive, 642
  Legislative, 19, 646
  New Constitution of, 23
  Nominated, 19
  of Seven members, 20
Countries Consuming Wool, 336
  Producing Wool, 336
Country—Free Libraries, 771
  Municipalities, 809
  Not all fitted for Sheep, 322
  Water Supply, 814
Cowal Lake, 55
Cows, Dairy, Number of, 361
Cox River, 43
Cretaceous Formation, 64
Crews of Vessels, 149
Crime, 590
  Apparent high rate of, 608
  Effect of Education on, 597
  Epidemics of, 604
  in Australasian Colonies, 609
Crimes of Aboriginals Provoked, 424
Criminal Jurisdiction, 630
  Lunatics, 491
  Population at Gold-fields, 608
Criminals from floating population, 609
Crisis—Commercial, 23
Crops—Liens on, 730
  Principal, 267
  Quantity and Value, 267
Cross breeds of Cattle, 339
  of Sheep, 326
Crown Lands Act of 1861, 225
  Acts of 1884 and 1889, 227
  Alienated, 237
  Auction Sales, 234
  Revenue from, 235, 663
Crustaceæ, 137
Cudgellico, Lake, 55
Cultivated land, small proportion of,
Cultivation—Area under, 259
  Agricultural, 259
  in Central Table-land, 263
  in Hunter Districts, 261
  in Metropolitan Districts, 260
  in North Coast Districts, 262
  in Northern Table-land, 264
  in South Coast Districts, 261
  in Southern Table-land, 264
  in Western Districts, 265
  of Barley, 297
  of Maize, 288
  of Oats, 292
  of Wheat, 268
  Principal Crops, 266
Culverts and Bridges, 541
Cunningham's Explorations, 20
Currency, 706
  Amount of, 711
Curriculum—High School, 755
  Technical College, 766
  Public School, 748
Curtis, Port, 19
Customs Revenue—Australasian, 219
  New South Wales, 219
  for 10 Years, 220
Customs Duties, 213

Daily Expenditure, 381
Dairy Cows, number of, 360
  Farming, 359
  Farm Hands, 360
  Produce, 361
Dampier's Exploration, 2
Dams and Fencing, 366
Darling River, 53
  and Murray Trade, 153
  Tributaries, 54
Darling, Sir Ralph, 20
  Unpopularity of, 21
Darwin's Prophecy, 6
Deaf and Dumb and Blind, 756
Death Rate, 451
  at various ages, 466
  in Australasian Colonies, 451
  in Quinquennial Periods, 458

Death Rate in Hospitals, 823
  Mean, 451
  Lower than in Europe, 455
  of Chief Cities, 463
  of Children, 457
  of Colony favourable, 454
  of Insane, 485
  of Persons over Five Years, 456
  per Thousand, 460
  under One Year in each Colony, 462
  variations in, 456
Deaths, 451
  Accidental, 476
  at all Ages, 465
  Causes of, 468
  during each Quarter, 454
  in Australasian Colonies, 452
  in Gaols, 627
  in New South Wales, 459
  Male and Female, 453
  percentage to Births, 475
  per Thousand, 455
  under One Year of Age, 461
Debt—Public, 688
  Increase of, 689
  in twenty years, 1869–1889, 690
  per Head, 689
Debtors in Confinement, 626
Decrease in Crews, 149
  in Consumption of Drink, 602
  in Committals for Trial, 605
  in Drunkenness, 602
  in Intoxicants consumed, 387
Defence, 783
  Cost of, 789–791
  Loan expenditure for, 790
Deficit, how met, 685
Deficiency of Wheat, 374
Degrees conferred by University, 762
Demand for Meat overtaking Supply, 352
Demand and Supply of Sheep, 357
Deniliquin-Moama Railway, 547, 567
Denison, Sir William, 32
Denominational Colleges and High Schools, 765
Deposits in Banks, 714–6
Departures and Arrivals by Sea, 406
Department of Agriculture, 266
Destiny of Australia, 836
Destitute Adults, 833
  Children, 831
Destruction of Native Animals, 131
  of Timber, 124
Destructive Fishes, 136
Deterioration of Horses, 362
Development of Banking, 720
Devonian Rocks, 62
Diamond Drills, 64
Diamonds, 110
Diet, Principal articles of, 373
Dietetic Diseases, 469, 472
Dingoes, 130
Discount, Rates of, 723, 724
Discovery by Dutch Explorers, 1
  of Murray River, 19
  of Murrumbidgee, 19
  of Gulf of Carpentaria, 2
  of New Zealand, 2
  of Tasmania, 2
Discoverer of Payable Gold, 70
Diseases—Classification of, 468
  in Stock, 369
Dismissal of Cabinet Ministers, 643
Distribution of Gems, 110
  of the Sexes, 425
Disabilities of Electors, 648
District Courts, 630
Dividing Range, 36
Divine Service, attendance at, 779
Divisions, Land, 227
Divorce Court, 628
Divorced Persons Married, 438
Divorces, 438
Dock Accommodation, 157
  New Graving, 157
Docks and Slips, 157
Drunkenness, 598
  Decrease of, 600
  Habitual, 602
  in Australian Colonies, 598
  of Females, 600
  in New South Wales and Victoria compared, 600
Dryness of Climate, 58
Dugong, 138
Dumaresq River, 53
Dunlop Station, Artesian Well, 65
Dutch Explorers, 2
Duty on Beer, 216
  on Cigars and Cigarettes, 217
  on Sugar, 218
  on Tea, 218
  on Tobacco, 217
  on Wines, 216
"Duyphen," Discovery Ship, 2

Earnings of Railways, 556, 672, 675
  from Re-exports, 182
  of Tramways, 675
  of Workers, 705
Early Postal Rates, 578
  Shipping Records, 140

Eastern Division, 228
  Alienation in, 228
Eastern Watershed, 36
Economic Plants, 113
Ecclesiastical Jurisdiction, 628
Echidnæ, 130
Education—almost free, 742
  Average Cost of, 752
  Comparative Cost of, 751
  Compulsory, 742
  Cost of, per Scholar, 749, 752
  Cost of, in other Colonies, 750
  Effect of, on Crime, 597
  Expenditure on, 682
  First Grant for, 740
  History of, 740
  Local Boards for, 742
  of Persons Arrested, 597
  Primary, 740
  Primary Cost of, 751
  Progress of, 742–4
  Secondary, 741
  State Expenditure on, 752
  Technical, 765
Edward River, 51, 54
Effect of Gold Discovery, 28
  of Gold Rush on Wages, 384
  of Price of Wool, 331
  of Railways on Trade, 183
Efficiency of Volunteers, 786
Eight-hour System of Labour, 524
Election by Ballot, 650
Elections, 651–3
  General, 652–3
Electors—Disabilities of, 648
  Qualification of, 647
Electoral Act, 649
Electric Telegraphs, 588
Elliott Introduces Meat-canning, 24
Emancipists—Recognition of, 18
Emigration of Chinese, 419
Emu, 132
Employment, 493
  of Females, 494, 504
  of Males, 494
Employés of Contractors, 528
  of Government, 526
Encounter with Aborigines, 4
Enclosed Land—Area of, 242
Endeavour River, 5
Endowment of Municipalities, 797
  of the University, 759
Endurance of Colonial Horses, 363
Engineers, 785
Enrolment of School Children, 745, 747
Epidemics of Crime, 604
Equality, Religious, 22

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Exports of Raw Material, 177
  of Sheep, 320
  of Silver and Silver Lead, 176
  of Stock, 179
  of Stock to Victoria, 187
  of Wool, 328, 330, 331
  of Wool through other Colonies, 330
  of Wool to Belgium, 205
  of Wool to France, 206
  of Wool to Germany, 208
  of Wool to Victoria, 189
  Percentage of, 211
  Preponderance of Home Produce, 169
  to China, 208
  to each Country, 162, 211
  to Great Britain, 147
  to Hong Kong, 200
  to India, 201
  to New Caledonia, 207
  to New Zealand, 200
  to Queensland, 193
  to South Australia, 194, 196
  to Tasmania, 198
  to United States, 204
  to Victoria, 189, 190
  Value of per ton, 146
Extent of Agricultural cultivation, 259
  of Criminal Classes, 624
Extension of Municipalities, 794
Extirpation of Noxious Animals, 371

Facilities for Watering Stock, 366
Factors influencing Marriage, 432
Factory Butter, 360
Farming—First Attempted, 10
  on the Hawkesbury, 11
Fatality of Phthisis, 474
Fares and Freights, 221
Fauna of New South Wales, 129
Federation Address to the Queen, 655
  Conference, 654
  Question, 653
Females—Employment of, 494, 504.
  employed in Principal Industries, 505
Female Misdemeanants, 623
Fencing and Dams, 366
Field for New Factories, 506
Ferries and Punts, 541
Fewness of Australasian Cities, 410
Final Abolition of Transportation, 27
Finance and Public Wealth, 656
Fines—Cases in which Inflicted, 605
Fire Risks, 732
Firemen in Metropolitan Districts, 734
Fires in Metropolis, 733
Fire Clays, 111
First Fleet, 7
  Mail Steamer, 582
  Mention of Gold, 70
  Nuggets found, 28
  Postal Act, 578
  Post Office, 578
  Railway opened, 544
  Sod Railway turned, 544
Fish Acclimatization, 137
  Fresh Water, 137
  Supplies of, 139
Fish River Caves, 62
Fishes, 133
  Classification of, 134
  Destructive, 136
Fishing Industry Neglected, 133
Fisheries—Neglect of, 136
Fitzroy Dock, 157
Fitzroy, Sir Charles, 25
Flathead, 135
Floating Docks, 157
Flocks of the World, 367
Flora of New South Wales, 112
Flour—Imported and Colonial made, 286
  Manufactured, 515
  Mill Power, 286
Fluctuation in Overland Trade, 193
  in Price of Wool, 332, 333
Food and Wages, Level, 385
  Consumed in Australasia, 376
  Consumed in Excess, 379
  Cost of, 372, 373
  New South Wales could produce, 380
  Supply and Cost of Living, 372
  Thermo-dynamic Effect of, 378
Foreign Market, United States, 203
  Produce Exported, Value of, 181
  Tonnage Registered, 155
  Trade, 202
  Vessels, Tonnage of, 144
Forests, 113
Forest Conservation Branch, 125
  Reserves, Plantations in, 127
  State, 127
Fortifications, 793
Foundation of Colony, 9
  of Wool Trade, 317
Framing of Constitution Act, 30
Franking Letters, 578
Free Grants Abolished, 22
  Immigration Encouraged, 19
  Public Library, 771
  Scholars, 753
  Selection before Survey, 225, 227
Freights to London, 223
  on Wool, 222

French and German Mail-steamers, 583
  Mail Steamers, 143, 583
  Settlement suspected, 20
  Trade, 206
Freshwater Fish, 137
Frog-fish, 138

Gaols, 612
  Deliveries, 630
Garfish, 136
Gems and Gemstones, 110
General Exports, 176
  Elections, 652-3.
Geographical Society, 769
Geological Formation, 61
George, Lake, 40
George's River, 44
German Mail-steamers, 143, 583
  Trade, 208
Gipps, Sir George, 22
Goethite, 89, 90
Gold, 70
  Alluvial, 70, 75
  Arrival of first Nuggets in Sydney, 28
  Authority to dig for, 77
  Coinage of, 77
  Coined and Exported, 74
  Coin issued, 708
  Colour and Specific Gravity of, 77
  Decline in production of, 75
  Discovery of, 27
  Exported to America, 205
  Export of, 74
  Exports exceed Imports, 739
  Field purchases, 235
  from Alluvium, 78
  from Quartz, 79
  Import and Export of, 737, 738
  in Coal-measures, 73
  in Western Australia, 80
  Mines, Accidents in, 79
  Movements of, 737
  Production of, 79
  Quantity Coined since 1851, 79
  Sent to Sydney Mint, 77
  Total quantity produced, 79
  Veins, richness of, 73
  Weight of, Minted, 707
Gold-mining, 67
  Modern system of, 68
  Number engaged in, 69
  Pyrites, 72
  Quartz, 73, 75
  Widely diffused, 72
  Goods Traffic—Revenue from, 564

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High Schools, 755
  Denominational, 765
  Public, 755
Historical Sketch, 1
History of Education, 740
Holdings—Aggregation of, 254
  Area of, 242
  Average Area of, 238
  Central Table-land, 249
  Comparative Size of, 239
  Hunter River District, 244
  in Various Electorates, 240
  in Vicinity of Towns, 241
  Metropolitan Districts, 243
  North Coast, 247
  Northern Table-land, 251
  North-western District, 254
  of Various Sizes, 241, 255
  South Coast District, 246
  Southern Table-land, 250
  South-western District, 253
  Size of, 254
Home and Foreign Produce Exported, 170
  Produce Exported, 177
Homestead Leases, 233
Hopping Fish, 138
Horses—Breeding, 361
  Classification of, 363
  Deterioration of, 362
  Diseases in, 369
  Endurance of, 363
  Export of, 179
  Foreign demand for, 364
  Markets for, 363
Horse—Sea, 138
Hospitals—Accommodation, 821
Hospital Cases—Average number of, 822
  Cost of, to the State, 824, 825
  Death-rates in, 823
  Expenditure of, 824
  Necessity for, 821
  Pauper Patients in, 823
  Persons treated in, 822
  Revenue of, 825
Houses and Population, 815
Hovell, Explorer, 19
Hunter, Governor, 11
Hunter River, 42
  Cultivation, 261
  Holdings, 244

Igneous Formation, 66
Illawarra Lake, 49
  Railway, 552
Illegitimate Births, 445, 449
Illiteracy in the Country, 434
  in other Colonies, 744
  of Women, 434
Illegitimacy increasing, 445
  in the City, 447
Immigration—Assisted, 21
  due to Gold Discovery, 67
Imperial Garrison, 783
  War Vessels on Station, 792
Imphee, 300
Imports, 164
  and Exports, 161
  Classification of, 165
  exceed Exports, 212
  Exports, and Loans, 696
  Foreign, 203
  from Belgium, 205
  from China, 209
  from each Country, 162, 210
  from France, 206
  from Germany, 208
  from Hongkong, 200
  from India, 200
  from New Caledonia, 207
  from New Zealand, 199
  from Queensland, 192
  from South Australia, 195
  from Tasmania, 198
  from United States, 204
  from Victoria, 188
  Increase in Value of, 164
  of Barley, 298
  of Breadstuffs, 285
  of Breadstuffs from South Australia, 197
  of Breadstuffs from Victoria, 197
  of Fruits, 312
  of Gold, 737
  of Pure-bred Cattle, 340
  of Sheep, 320, 324
  of Vessels, 154
  Percentage of, 210
  per Inhabitant, 164, 166
  since 1880, 168
  to each Port, 163
  Valuation of, 210
  Value of per Ton, 146
Importation of Labour, 532
Improved Style of Living, 384
Improvement of Colonial Credit, 694, 695
  Purchases, Revenue from, 668
Income, 705
Income and Expenditure, 380
  of various countries, 706
  of wage-earners, 705
  Total, 705
Incorporation of Sydney, 794

Increase in Cattle, 345
  in Municipal value, 799
  of Births, 440
  of Convictions, 606
  of Population, 401
  of Public Debt, 689
  of Sheep, 318, 354, 355
  of Wealth, 703
India—Imports and Exports, 200
  Trade with, 199
Infantile Deaths, 461
Infantry, 785
Industries employing power, 530
Industrial Schools, 767
Influx of Chinese, 419
Initiation of Wool-growing, 14
Insane, admitted to Hospitals, 486
  Ages of, 487
  Asylums—Cost of, 835
  Cost of, in Hospital, 491
  Criminal, 491
  Death of, 490
  Death Rate of, 485
  Few Colonial born, 487
  Influx of, from Abroad, 486
  in United Kingdom, 485
  Number of under treatment, 484
  Neurosis, 488
  Proportion—Constant, 484
  Treatment of, 834
Insanity, 483
  Causes of, 488
Inscribed Stock, 694
  Sold in London, 695
Insolvencies and Bankruptcies, 728
Instruction—Science and Religion, 740
Intellectual Progress, 836
Intemperance—Cause of Insanity, 488
Intercolonial Trade, 186
Interest—Actual and Nominal, 693
  Average on Bank Deposits, 723
  Nominal Rates of, 692
  on Capital (Railways), 559
  on Loans, 693
Internal Communication, 538
International Copyright, 536
Iridosmine, 93
Ironbark, 115
Iron—Analysis of Ores, 89
  Exceedingly Rich Ores, 89
  Import of, 91
  Manufactories in N.S.W., 91
  Manufactured—Value of, 91
  Trade—Prospects of, 508
  Wide diffusion of, 89
  Works at Eskbank, 91
  Works at Mittagong, 92

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Lang,

La Pérouse, 9
Large Bank Deposits, 724
  Number Single Men, 433
Larceny, 622
Laughing Jackass, 132
Law and Crime, 590
Lawson crosses Blue Mountains, 18, 538
Lead Ore Exported, 83
Leases, Conditional, 229, 231
  Homestead, 233
  Pastoral, 232
  Scrub, 233
  Snow, 234
  to protect Wells, 234
Legislative Assembly, 647
  Proposed, 31
Legislative Council, 646
  Instituted, 19
  Increased, 23
Legislation to restrict Chinese, 420
Length of Life, 481
  of Navigable Rivers, 54
  of Railways, 548, 560
  of Roads, 541
  of Telegraphs, 589
Le Receveur Père, 9
Letters Carried by Post, 586
  of Administration, 701
  Patent, 533
Lewis Ponds Gold Co., 76
Library—Free Public, 771
  Cost of Maintenance, 774
  Lending Branch, 773
  Number of Readers at, 773
  Reference, 771
Libraries—Municipal, 774
Licenses, 661
Licensed Public Vehicles, 577
Licensing Act Amended, 662
Liens on Growing Crops, 730
  on Wool, 728
Lieutenant-Governor, 635
Life Assurance, 735
Life—Average Duration of, 481
  Expectation of, 479
Light Railway Lines, 554
Limestone, 62
Limits and Area of Colony, 34
Limonite, 89, 90
Liquors, 390
  Consumption of, 387-92
Linnean Society, 769
Liverpool Plains, 22
  Ranges, 37
Live Stock—Trade in, 179
  in Australasia, 365
  Mortgages on, 729
Loan Expenditure, 696
Loans, 685
  Authorised, but not raised, 688
  City of Sydney, 808
  First issue of, 685
  Floated at 3½ per cent., 692
  Floated since 1858, 691
  Expended on Defence, 790
  Imports and Exports, 696
  Municipal, 809
  Purposes for which raised, 686
  Recent Australian, 692
  Selling price no test of credit, 693
Local Boards—Education, 742
  Land Boards, 227
  Diseases, 469, 472
  Government, 794, 817
  Option, 816
  Public Works, Cost of, 818
Long-woolled Sheep, 326
Lord Howe Island, 50
Lottery—Bank of Australia, 24
Loss of Sheep from Drought, 319
  of Cattle from Drought, 338, 347
  of Wheat from Rust, 275
Lucerne, 300

Macarthur, John, 14
  Arrested, 15
  Introduces Merino Sheep, 316
Macdonald River, 44
Machinery in Colony, value of, 498
  Industries employing, 500
Mackerel, 136
Macleay River, 41
Macquarie, Lake, 47
  Governor, 17
  Port, 46
  River, 54
Magistrates' Courts—Committals, 590
  Summary Convictions by, 591
Magnetite, 89
Mail Steamers to America, 582
  to Europe, 582
  French and German, 583
Main Roads, 539
Maintenance of Roads, 540
Maize, 288
  Area under, 291
  Average Yield, 289, 291
  Cultivation, State of, 291
  for Green Food, 292
  in Tumut District, 289
  in Various Districts, 290
  Large Production of, on Coast, 289

Maize—Principal Centres of, 288
  Production Distributed, 288
Males and Females—Proportion of, 427
  Signing with Marks, 435
Males Employed in Productive Works, 494
Males Convicted more than once, 618
Male Misdemeanants, 622
  Population, Excess of, 425
  Population of Australasia, 426
Mammalia, 129
Manganese, 92
Manning River, 42
Manslaughter, 621
Manufactories and Works, 497
  Amount Invested in, 498
  Average Value of, 499
  Classification of, 500
  in different Colonies, 497
  Number of Hands in, 497
Maoris, 423
Marbles, 111
Markets for Horses, 363
Marriage by Clergy and Registrars, 435
  Prospects of Women, 433
  of Divorced Persons, 438
  of Illiterates, 433
  Registers signed with marks, 434
Marriage-rate Declining, 429
  Low in New Zealand, 431
  of Australasia, 431
  of Women, 433
  per Thousand, 430
Marriages, 428
  by each Denomination, 436
  chiefly by Clergy, 435
  Dissolved, 438
  Factors influencing, 432
  in 1889, 436
  in Europe, 429
  in New South Wales, 429
  in United Kingdom, 429
  Registered, 432, 437
Marsupials, 129
Martial Law, 642
Marvellous progress of Education, 743
Matrimonial Causes Act, 438
Material and Intellectual progress, 835
Meat—Average Australasian consumption, 343
  Canning introduced, 24
  Comparative Consumption of, 343
  Consumption of, 341
  Consumption of, in Victoria, 342
  Supply, 340, 374
  Supply deficient, 353
Melbourne—Population and Progress, 411

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Mortality—Rate of, 460
Mortgages discharged, 731
  on Land, 730
  on Live Stock, 729
  Registered, 730
Moruya River, 45
Mountain Ash, 116
  Scenery, 38
  Tableland, 36
Mullets, 136
Municipal Assessment, 795
  Elections, 815
  Electors—Number of, 816
  Libraries, 774
  Loans, 808–811
  Indebtedness, 810
  Revenue, 806
  Works, 812
Municipalities Act, 794
  Assets of, 810–811
  Capital Value of, 798, 800
  Endowment of, 797, 807
  Expenditure of, 807–9
  Extension of, 794
  Number of, 795
  Population of, 415–16
  Position of, 796
  Powers of, 795
  Privileges of, 795
  Ratable Property in, 798, 800
  Revenue of, 806, 807
  Streets and Roads in, 811
Murder—Convictions for, 621
Murray River, 50
  Cod, 137
  Discovered, 19
Murray and Darling River Trade, 153
Murrumbidgee River, 51
  Discovered, 19
Museum, Australian, 770
  Technological, 775
Mutiny of the Bounty, 14
Myall Lake, 49
  River, 42

Nambucera River, 41
Namoi River, 54
Nannigai, 135
National Art Gallery, 775
  Park, 819
Natural Wages Periods, 383
Naturalisation, 416
Native Animals, Destruction of, 131
Native Cats, 130
Naval Artillery Volunteers, 788
Naval Brigade, 787
  Forces, 787
  Station in Port Jackson, 791
Necessity for Hospitals, 821
  for Technical Education, 765
Neglect of Swine Breeding, 364
Nepean River, 44
  Water Supply, 812
Net Annual Increase of Population, 445
  Railway Revenue, 559
Newcastle, Port of, 157
New Caledonia, Trade with, 207
New South Wales, Annual Increase of Population, 401
  as a Pastoral Country, 265
  as Sheep Country, 322
  and Victoria Compared, 703
  Corps, 12
  Number of Sheep in, 318
  Population of 400, 410, 428
  Suited for Sheep, 315
  Wheat Yield Compared, 277
  Wines at Bordeaux, 309
  Wool Exported, 175
New Zealand, Exports from, 200
  Imports from, 199
  Trade with, 199
Nobility, Hereditary, Proposed, 31
Nominal and Actual Interest, 693
  Rates of Interest, 692
Non-metallic Minerals, 94
North Coast Cultivation, 262
  Holdings, 247
North-western Holdings, 254
Northern District Coal-mines, 97
  Railway System, 550
  Tableland Cultivation, 264
  Tableland Holdings, 251
Notes and Bills in Circulation, 720
  Circulation of Banks, 719
Noxious Animals, 370
Nuggets, Remarkable, 71
Number of Births in each Colony, 441
  of Cattle in Australia, 344
  of Children of School Age, 745
  of Municipalities, 795
  of Persons Convicted, 615
  of Railway Employés, 566
  of Schools, 747
  of Sheep in each Colony, 321
  of Sheep Shorn, 328
  of Swine, 364
  of Teachers, 748
Nursery—State, 126
Nymagee Copper Mines, 88

Oats, 292
  Area and Yield, 293
  Area grown for Hay, 296
  as a fattening Food, 295
  Cultivated for Grain, 293
  Cultivated for Hay, 296-297
  Imported from New Zealand, 296
  Principal centres of, 292
  Yield in Australasia, 294
  Yield in other Countries, 295
Oaten Hay—demand for, 296
Oath of Allegiance, 649
O'Brien, Mr., introduces boiling down, 24
Observatory, Sydney, 770
Occupation Act of 1861, 226
Ocean Mail Service, 582
Offences—Classification of, 621
  of Prisoners, 621
Offenders Convicted more than once, 618
  Juvenile, 618
Offices of Profit, 649
Omnibus Traffic, 576
Orara River, 41
Orange Growing, History of, 311
Oranges, 311
  Area and Yield of, 312
Orchards and Gardens, 312
Orders in Council, 226
Ordinary Municipal Rates, 806
Orient Steam Navigation Company, 583
Opossums, 129
Out-door Relief, 824
Overland Trade, 182, 183
  with Queensland, 194
  with Victoria, 191
Oyster Culture, 138
Oysters, 137

Palæozoic Formation, 61
P. and O. Company, 582
Paddocked and Shepherded Sheep, 327
Pammaroo Lake, 55
Panama Mail Line, 582
Parasitic Diseases, 469, 472
Parkes, Sir Henry, 31
Parks and Recreation Reserves, 818
Parliamentary Elections, 653
  Voters, 647
Parliament—Cannot punish for Contempt, 645
  Dissolution of, 639
  Duration of, 651
  First Meeting of, 650
  May summon Witnesses, 645
Parliament—Powers of, 645
  Summoning of, 639
  Triennial, 650
Paroo River, 54
Parramatta Orangeries, 311
Passenger Journeys, Railways, 561
  Traffic, 562
  Passengers carried, 561
Pastoral Leases, 233
  Occupation, 225
  Property—Value of, 365
  Pursuits—Hands employed in, 4
  Resources in terms of Sheep, 365
Patents and Registrations, 533
Patent Slips, 157
Paterson River, 43
Payment of Members, 649
Payment on account of State Aid, 7
Paupers, 834
  Patients—Vote for, 823
Perch, 137
Permanent Artillery, 784
  Submarine Miners, 784
Permits to strip Bark, 128
Personal Property, 700
Persons apprehended, Birth-places of,
  Convicted, number of, 615
  Convicted more than once, 616-6
  Education of, 597
  in Charitable Asylums, 833
  Sentenced—Ages of, 615, 620
Pèrouse, De la, 9
Percentage of Expenditure, 679
  of imports, 210
  of lambing, 327
  of males and females, 425
Phillip, Governor, 7
  enters Port Jackson, 8
  founds Sydney, 9
  returns to Europe, 11
Phthisis, fatality of, 474
Phylloxera vastatrix, 310
Physical Configuration, 36
Pigs, 364
Pigeon tribe, 132
Pine—Colonial, 118
  Strength of, 123
Pine woods, 120
Pillar letter receivers, 580
Plantations in forest reserves, 127
Plant in Factories, 499
Plants—Classification of, 113
Platinum, 93
Platypus, 130
Police—Arrests by, 591
  Duties performed by, 592
  in Australasia, 592

Police in Cities, 593
  Number of, 592
Poll-tax—Chinese evasion of, 420
Population, 398
  Aboriginal, 421
  Accidents per 100,000 of, 477
  Ages of, 427, 428
  Annual Increase of, 445
  Birthplaces of, 407
  Birthrate of, 440, 443
  Centralization of, 406
  Chinese, 418
  City, Suburbs, and Country, 413
  Compared with America, 409
  Compared with Railways, 546
  Death-rate of, 451, 458
  Deaths per thousand, 455
  Growth of, 402
  Increase of, 401, 402
  Increase of in Cities, 409
  Insane in proportion to, 486
  Largest Increase of, 401
  Marriage Rate of, 430, 431
  Most dense along Seaboard, 416
  Native Born, 407, 408
  of Australasia, 399, 403
  of Australasian Cities, 411
  of Australia and Australasia, 403
  of Country Municipalities, 416
  of Melbourne, 411
  of New South Wales, 400, 410, 413, 428
  of Suburbs of Sydney, 415
  of Suburban Municipalities, 415
  of Sydney, 411, 412, 413
  of United States, 409
  of Victoria, 410
  Racial composition of, 408
  Rate of increase in, 341
  Sexes of, 425
  Suicides per 100,000 of, 478
  Tendency of, towards Cities, 406, 408
Port Hunter, 47
  Jackson, 5, 8, 48
  Macquarie, 42, 46
  Phillip, Separated, 25
  Stephens, 46
Post and Telegraphs, 577
  Revenue from, 676
Post Office, in 1889, 581
  New Buildings, 583
  Particulars of, 584
  Savings Banks, 588
Post Cards, 581
Postage Stamps, 579
Postal Act, First, 578
  Act of Sir Richard Bourke, 579
Postal Business in N.S. Wales, 586, 732
  Business of other Countries, 587
  Department, Cost of, 585
  Department, History of, 577
  Expenditure, 585
  Rates, Early, 578
  Rates, Reduced, 579
  Revenue, 580, 585
  Money Orders, 587
Potatoes, 301
  Area under, 301
  Consumption of, 375
  Imports of, 375
  Yield of, 301
Position, Relative, of Sydney, 799
Powers of Municipalities, 795
Power of Plant in Factories, 499, 529
Prawns, 137
Pre-emptive Purchases, 667
Prerogative of Mercy, 636, 640
Presbyterian Church, 780
Present State of Settlement, 242
Press—Censorship Abolished, 19
Price Level of Exports, 171
  of Imports, 173
Price of Wheat, 279–80
Prices Current, 392–7
Primary Instruction, 740, 751
Principal Articles of Diet, 373
  Breeds of Cattle, 338
  Crops, 267
  Crops, Coast Districts, 257
  Crops produced, 267
  Imports from Victoria, 188
  Re-exports, 181
Prisons and Prison Accommodation, 612
Prisoners, Ages of, 615
  Birthplaces of, 620
  Confined at end of year, 613
  Offences of, 621
  Previously Convicted, 616–620
  Received into Gaol, 612
  Total number of, 620
  Under Sentence Classified, 614
Private Indebtedness, 731
  Lines of Railway, 547, 567
  Schools, 754
  School Attendance, 753
  Wealth, 699
  Wharves, 157
Privy Council, Appeal to, 628
Probate Duty, 661
Probates, 701
  An Index of Wealth, 702
Produce, Agricultural, 268
  Exported, 179
  Quantity and Value of, 266

Produce of Vineyards, 309
  of Wheat below demand, 281
  of Wheat per acre, 279
Profit, Offices of, 649
  on Postal Business, 676
Production of Breadstuffs, 282
Progress of Education, 742-4
  of Municipalities, 799
  of Sydney and Melbourne, 411
Propertied Class, 820
Property left by Deceased Persons, 702
  Qualification, 648
Proportion of Males and Females, 427
  of Suicides, 478
Projected Branch Railways, 550, 551
Proposals to meet Deficit, 685
Prospect Reservoir, 812
Prosperity indicated by Food, 377
Provision for Extinction of Loans, 691
Public Conveyances, 576
  Debt, amount of, 687, 688
  Debt at close of 1889, 688
  Debt, Increase of, 685
  Examinations, 761
  Expenditure, 679
  Resources, Value of, 687
  Vehicles, 577
  Works charged to Revenue, 690
  Wealth, 697
Public-houses, Revenue from, 663
Public Schools Act, 740
  Boards, 749
  Curriculum, 748
  Superior, 756
Punishment, 604
  Capital, 609
  Inflicted by Magistrates, 605
Punts and Ferries, 541
Purchases on Gold-fields, 235
Pyrolusite, 92

Qualification of Electors, 647
  Property, 648
Quantities and Value of Produce, 266
Quantity of Minerals, 69
Quartz—Gold in, 73
  Mining, 75
  Mining—Revival of, 76
Queensland—Exports to, 193
  Imports from, 190
  Trade with, 192
  Overland Trade with, 194
  Separated, 25
Question of Food Supply, 340
Quiros, De, 1

Rabbit Pest, 370
Railways, 544
  Accidents on, 572
  Analysis of Goods Traffic, 563
  Average Cost per Mile, 555
  Capital Expended on, 547
  Compared with Population, 546
  Connection of Capitals by, 549
  Cost of, in other Countries, 556
  Cost of, to date, 555, 566
  Distribution of Working Expenses,
  Earnings and Expenses, 557, 674
  Earnings in various years, 553
  Extension to Circular Quay, 551
  First Line opened, 544
  First Sod turned, 544
  Goods Traffic, 563
  Goods Traffic Receipts from, 565
  Gross Earnings and Expenses, 557
  Illawarra Line, 552
  Interest on Capital, 559
  Journeys per Head, 561
  Largest Revenue from, 675
  Length of, in other Colonies, 548
  Length of, in other Countries, 560
  Length of Lines open, 565
  Length opened each year, 545
  Light Lines, 554
  Loss on New Lines, 553
  Men employed on, 566
  Nearly paying interest, 675
  Net Revenue, 559
  Northern System, 550
  Outstanding Debt on, 566
  Owned by Government, 672
  Passengers and Receipts, 562
  Passenger Traffic, 561
  Population per Mile of, 546
  Private Lines, 547, 567
  Projected Branch Lines, 551, 552
  Receipts from Goods, 565
  Receipts from Passenger, 563
  Returns reduced by Extensions, 5
  Rolling Stock, 566
  Slow Progress of Construction, 54
  Southern System, 548
  Suburban Traffic, 562
  Systems of the Colony, 548
  Tonnage Carried per Head, 563
  Tonnage of Goods and Earnings,
  Tonnage of Goods Carried, 563, 5
  Total length open, 565
  Train miles run, 546
  Transfer to State, 544
  Utilized for Postal Purposes, 580
  Wages paid in connection with, 5
  Western System, 549

- Railways—Working Expenses of, 558
- Rainfall—Influence on Wheat, 270
- Rate of Imports per head, 165
  - of Increase in Cattle, 345
  - of Increase of Population, 341
- Rates of Discount, 723, 724
  - of Interest, Nominal, 692
  - Ordinary Municipal, 806
  - Special Municipal, 806
- Recent Australian Loans, 692
- Reconvictions, 624
- Recreation Reserves and Parks, 818
- Re-export Trade, 180–2
  - of other Colonies, 169
  - of Wool, 175
  - Trade, Benefit of, 182
- Reference Library, 772
- Reformatories, 767, 831
- Reformatory, Parramatta, 767
- Refunds, 658, 670
- Registered Tonnage—Value of, 155
  - Vessels—Number of, 154
- Registration of Books, 534
  - of Copyright, 537
  - of Inventions, 533
- Relation between Loans and Imports, 695
- Religion, 776
  - Adherents of each, 778
  - of Persons apprehended, 596
  - State Aid to, 776
- Religious Instruction, 741
- Remarkable Fishes, 138
- Reproductive Works, 687
- Reserves of Banks, 716–718
- Responsible Government Inaugurated, 32
- Retail Prices, 393
  - Value of Food Consumed, 373
- Reptiles, 139
- Return of Apprehensions of Criminals, 603
- Revenue—Accumulated Surplus, 684
  - Classification of, 658
  - from Auction Sales, 666
  - from Conditional Sales, 669
  - from Crown Lands, 663, 664
  - from Goods Traffic, 552, 565
  - from Customs and Excise, 219
  - from Imported Spirits, 215
  - from Improvement Purchases, 668
  - from Mining Leases, 672
  - from Miscellaneous Receipts, 677
  - from Passenger Traffic, 563
  - from Pastoral Occupation, 671
  - from Post and Telegraphs, 676
  - from Pre-emptive Sales, 668
  - from Productive Works, 687
  - from Publicans' Licenses, 662
- Revenue from Railways, 672
  - from Sales and Occupation, 665
  - from Selections after Auction, 666
  - from Services, 672, 673
  - from Sugar, 218
  - from Taxation, 660
  - from Taxation per Head, 678
  - from Tea, 218
  - from Tramways, 675
  - in the Year 1825, 656
  - of Australasian Colonies, 656
  - of City of Sydney, 806–807
  - of Country Municipalities, 806–807
  - of Hospitals, 825
  - of New South Wales, 657
  - of Suburban Municipalities, 806–807
  - of University, 763
  - per Head of Population, 678
  - Surplus, 684
- Rice, 374
- Rich Soil of Coastal Valleys, 256
- Richmond River, 40
- Riverina, Sheep in, 323
  - Cultivation of Wheat in, 273
  - Ports, Trade of, 153
- Rivers in Coastal Regions, 40
  - of Western Watershed, 50
  - Traffic on, 153
- Roads and Bridges, Value of, 541
  - Expenditure on, 540, 543
  - Length of, 541
  - Municipal, 543
  - Principal Main, 539
  - Supervision and Maintenance, 54
- Rock Cod, 135
- Rolling Stock, 566
- Roman Catholics, 780
- Roman Catholic Marriages, 435
  - Schools, 754
- Royal Assent to Bills, 637
- Royal Society, 768
- Rum Currency, 15
- Rust in Wheat, 275
- Rye, 300

- Sale of Liquors, 661
- Sales of Inscribed Stock, 695
  - of Land by Auction, 234
- Salmon, 135
- Salubrity of Climate, 56
- Sandstone Formation, 111
- San Francisco Mail Service, 582
- Satisfactory Settlement, 247
- Savings Banks, 726
  - for Schools, 753

Savings Banks—Post Office, 588
Saving effected by Railways, 543
Saw-mills, 510
Scenery—Mountain, 38
Schnapper, 134
School Age—Children of, 745
  Boards, 742
  Fees, 752
  of Engineering, 760
  of Medicine, 760, 764
  Teachers—Training of, 749
Schools—Cost of, 750
  Church of England, 755
  Denominational, 754
  Enrolment, 745
  Establishment of, 740
  High, 755
  Industrial, 767
  Number of State, 747
  of Art, 774
  Private, 753
  Roman Catholic, 754
  State in Australasia, 748
  Sunday, 781-2
  Superior Public, 756
Scientific Societies, 768
Scrub Forests, 118
  Leases, 233
Seaboard not suited for Merinoes, 323
Secondary Education, 741
Second Fleet Arrives, 10
Secular Instruction, 741
Selection—before Survey, 227
Selections—Paid and Unpaid, 236
Selling Price of Australian Stocks, 693
Senate of University, 758
Separation of Port Phillip, 25
  of Queensland, 25
Servants—Condition improved, 386
Services—Revenue from, 672
Settlement, 224
  Satisfactory, 247
Settlers—Arrival of Free, 19
Sewerage, 815
Sex of Children Born, 441
Shale—Kerosene, 108
  Miners—Number of, 69
  Production and Value, 109
Sharks, 136
  Port Jackson, 138
Shaftsbury Reformatory, 767
Sheep and Cattle—Export of, 179
  Breeding—History of, 315
  Breeds of, 324
  Cast of, 356
  Classified, 325
  Diseases of, 369

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Slaughtering, Hands employed in, 496
Slow Progress of Cultivation, 248
Small Local Demand for Sheep, 320
    Pox, 483
    Proportion of Land Cultivated, 260
Snakes, 139
Snow Lands, 234
Snow Leases, 234
Snowy Range, 39
    River, 37, 45
Soap and Candle Factories, 510
Social Condition, 820
Soft-woods, 119
Soil adapted for Cultivation, 256
    of Coastal Valleys, 256
    Suitable for Fruit-trees, 257
Solander, Dr., 3
Solitary Island, 50
Sorghum, 300
Soup Kitchen, 828
South Australia—Breadstuffs from, 197
    Imports from, 195
    Overland Trade with, 196
South Australian Trade, 194
South Coast Holdings, 246
    Cultivation, 261
Southern Tableland Cultivation, 264
    Holdings, 250
South-western Holdings, 253
Southern Railway System, 549
Sown Grasses, 300
Special Areas, 230, 231
    Leases, 233
    Sales, 235
Specific Duties, 213, 219
    Gravity of Timber, 122
Spirits—Consumption of, 387
    Revenue from, 215
    Subject to Excise, 216
Squadron, Australian, 793
Stamp Duties, 661
    Paid on Estates, 704
Standard of Living, 387
    Weight of Coins, 707
State Aid to Charities, 820
    to Denominational Schools, 741
    to Schools, 756
    Expenditure on Education, 752
    to Religion, 776
State Children's Relief Board, 828
    Schools, 746
Steam and Sailing Tonnage, 145
Steamers—French and German, 143
Steam Power, 529
Stephens, Port, 46
Still Wine—Duty on, 216
State Nursery, 126
State Forests and Timber Reserves, 127
Stringybark, 116
Stock, 314
    Breeding—History of, 314
    Carrying Capacity of Colony, 321
    Price of Fat, 359
    Runs—Number of, 366
    Slaughtered, 351, 358
Stud Sheep—Importation of, 324
Stewart, Mrs., Turns first sod, Railways, 544
Strict Administration of Law, 609
Steady Increase in Revenue, 657
Streets and Roads—Municipal, 811
Strzlecki, Count, 70
Students—Technical College, 766
    University, 763
Sturt, Captain—Explorations, 20
Sugar Cane Cultivation, 304
    Consumption, 375
    Mills, 511
    Refineries, 512
    Revenue from Imported, 218
Suburban Expenditure, 808
    Municipalities, Population of, 415, 800
Submarine Cable, 577
    Miners, 785
Suez Canal, 145
    Mail Service, 583
Succession of Governors, 33
Suicides, 477
    in each Colony, 479
    Proportion of, 478
Summary Convictions, 591
Suits in District Courts, 631
Sunday Schools, 781, 782
Supply of Meat, 340
    Overtaken by Demand, 352
Supreme Court, 627
Superior Public Schools, 756
Superiority of Australian Wool, 324
Sutherland Dock, 156
Surplus—Accumulated, 684
    Advances from, 684, 689
    Stock in Queensland, 353
Swan River Settlement, 21
Swine—Number of, 364
Sydney—Chief Port, 152
    College, 757
    Cove, 8
    Founded, 9
    Grammar School, 756
    Progress of, 411
    Population of, 412
    Suburbs, 415
    Observatory, 770
    Temperature of, 56

Sydney—Trade of, 150
  Trade of, Compared, 151
  Tramway and Omnibus Co., 576
  Tram Road and Railway Co., 544
  Viscount, 7
Systems of Land Alienation, 224

Table-grapes, Cultivation of, 310
Table-lands suited for Cereals, 257
Tallow-wood, 116
Tariff of New South Wales, 213
Tasman, Discoveries of, 2
Tasmanian Imports and Exports, 198
  Trade, 197
Taxation per Head, 659, 678
  Revenue from, 658, 660
Tea and Coffee, Consumption of, 375
  Duties, 218
Teaching Staff of University, 762
Teachers, Number of, 748
  Training of, 749
Technical College, Foundation of, 765
  Classes in Country, 766
  Education, Cost of, 767
  Education, Curriculum, 766
  Education, Necessity for, 765
  Workshops, 766
Technological Museum, 775
Telegraphs and Posts, 577
Telegraph Lines in various Countries, 589
Tellurium, 93
Temperature and Climate, 56, 59
  Of Bourke, 58
  Of Sydney, 57
Tendency to Supplant Sail by Steam, 156
Thackaringa and Silverton, 81
Thermo-Dynamic effect of Food, 378
Timber, compared with European, 123
  Cutting, 128
  Destruction of, 124
  Export of, 121
  From Reserves, 125
  Girth which may be Cut, 126
  Imports of, 120
  Licenses, Revenue from, 125
  No necessity to Import, 122
  Reserves and State Forests, 127
  State Nurseries for, 126
  Tensile strength of, 122, 123
  Trade, 121
  Trees, Variety of, 114
Tin, 84
  Discovery of, 84
  Exports, Value of, 85
Tin Fields, Alluvial, 86
  French Syndicate in, 85
  Localities where Found, 84
  Miners, Accidents to, 86
  Miners, Chinese, 86
  Miners, Number of, 69
  Total production of, 84
Tobacco, 302
  Area under, 303
  Consumption of, 303, 377
  Cultivation of, 303
  Duties on, 217
  Excise on, 217
  Factories, 513
  Imported Leaf used, 513
  Over-production of, 303
  Quantity of Manufactured, 513
  Revenue from, 217
Tonnage Arriving in Ballast, 145
  at Chief Australasian Ports, 150
  at Chief British Ports, 152
  at Sydney and Newcastle, 151, 160
  Entered and Cleared in Ballast, 146
  of British Vessels Trading, 144
  of Exports to Great Britain, 147
  of Foreign Vessels Registered, 155
  of Foreign Vessels Trading, 144
  of Goods Carried by Rail, 563, 564
  of Steam and Sailing Vessels, 145
  of Vessels and Cargoes, 148
  of Vessels, Average, 148
  of Vessels Trading to N. S. Wales, 14
  Owned in Colony, 143
  Per Head, 147
  Registered Value of, 154
Torres, Luiz Vaez de, 1
Total Demand for Food, 374
  Number of Prisoners in Gaols, 612
Townsend, Mount, 36
Trade at Riverine Ports, 153
  British, 185, 202
  Follows British Flag, 201
  Foreign, 202
  in Live Stock,
  Intercolonial, 186
  of Australasian Colonies, 183, 186
  of Colony in British Hands, 143
  of Sydney, compared, 151
  of Sydney, Increase of, 150
  Overland, 182
  Re-export, 180
  Unions, 531
  with all Countries, 209
  with Belgium, 205, 206
  with British Possessions, 202
  with China, 208
  with Fiji, 200

Trade with France, 207
  with Germany, 208
  with Great Britain, 202
  with Hongkong, 200
  with India, 200
  with New Caledonia, 207
  with New Zealand, 199
  with Queensland, 191
  with South Australia, 194
  with Tasmania, 197
  with United States, 203
  with Victoria, 187, 190
Training of Teachers, 749
Tramway and Omnibus Co., 576
  Newcastle and Plattsburg, 572
  North Shore Cable, 572
Tramways, 568
  Accidents on, 576
  Cost of Construction, 570
  Earnings and Expenditure, 571
  Revenue from, 675
Transportation—Abolished, 23, 27
Treatment of Insane, 834
Trees, Cultivation of, 126
Trial Bay, 46
Trial by Jury, 19, 630
Triennial Parliaments, 650
Tulip Wood, 117
Tuross River, 45
Turpentine Tree, 116
Tweed River, 40
Twins and Triplets, 450
Twofold Bay, 49

Unalienated Area, 237
United States, Gold Exported to, 205
  Imports and Exports, 204
  Trade with, 203
University Affiliated Colleges, 761
  Benefactions to, 761
  Bequest of Mr. Challis, 762
  Charter of, 758
  Constitution of, 757
  Convocation, 759
  Degrees Conferred by, 762
  Endowment, 759
  Examinations, Results of, 763
  Laboratory, 764
  Public Examinations, 761
  Receipts and Expenditure, 764
  Revenue of, 763
  School of Engineering, 760
  School of Medicine, 760, 764
University, Senate of, 758
  Site at Grose Farm, 760
  Teaching Staff, 762

Vaccination, 483
Value of British Commerce, 148
  of Cargoes, 148
  of Estates, Average, 701
  of Export Trade, Declined, 170
  of Exports, 146
  of Exports, Home Produce, 178
  of Exports per Head, 171
  of Foreign Produce Exported, 181
  of Gold Imported and Exported, 738
  of Imports, 146
  of Lands and Buildings, 699
  of Machinery and Factories, 529
  of Minerals, 69
  of Municipal Works, 698
  of Plant in Factories, 499
  of Property Bequeathed, 701, 702
  of Private Wealth, 699
  of Public and Private Wealth, 697
  of Public Estate, 698
  of Public Works, 698
  of Ratable Property, 798
  of Re-exports, 181
  of Tonnage Registered, 155
  per Ton Measurement, 147
Valuation of Imports, 211
Vans and Cabs, 576
Various Land Systems, 224
  Size of Holdings, 241, 255
Vehicles Licensed, 577
Venomous Snakes, 139
Vessels Built in the Colony, 156
  Entered and Cleared, 145
  Registered in New South Wales, 154
  Wrecked in 1889, 158, 159
Vice-Admiralty Court, 628
Vicinity of Towns—Holdings in, 241
Victoria—Breadstuffs from, 195
  made Separate Colony, 29
  Overland Trade with, 191
  Principal Imports from, 187
Victorian Trade, 187
Vines and Wine Production, 307
  Area under, 309
  for Table Grapes, 310
Violence—Death from, 470, 473
Vital Statistics, 398
Voluntary Influx of Immigrants, 404
Volunteer Forces, 784
  Movement, 783

Volunteer Reserves, 786
Vote by Ballot, 650
  for Pauper Patients, 823

Wages, 517
  Accepted by Trades, 517
  Average paid since 1830, 525
  and Food Level, 385
  Real and Money, compared, 385
  Paid Railway Employés, 566
Wakool River, 51, 54
Wallabies—Number of, 129
Waljeers Lake, 55
Wallis Lake, 49
Warragamba River, 44
Warrego River, 53
War Vessels on Station, 792
Water, Artesian, 64
  and Sewerage Act, 814
  Supply, Nepean, 812
  Supply, Country, 814
  Works constructed, 814
Wealth, Public, 697
  Private, 699
Weight and size of Wool Bales, 330
  of Coins, standard, 707
  of Gold Minted, 707
Wellington Caves, 62
Wentworth, W. C., 30
  Explorations of, 18, 538
Wesleyan Methodists, 780
Western Districts—Climate of, 58
  Districts—Cultivation, 265
  Division, 231
  Watershed, 50
  Railway System, 549
Wharves, Public and Private, 158
Wheat, 268
  Affected by Droughts, 274
  and Flour Imported, 197
  Area under, 270, 271, 272
  Average Yield, 269, 274, 276
  Average Yield, Australasia, 278
  Average Yield, other Countries, 279
  Centres—Rainfall in, 277
  Crop influenced by Rainfall, 270
  Crop of the World, 281
  Cultivation irregular, 268
  Cultivation of, 270
  Deficiency of Yield, 282
  Districts compared, 271
  Districts where grown, 276
  Grown for Hay, 287

ks, Power of Machinery in, 529
king Expenses of Railways, 557
onora River, 44
cks, 159
ng State Nursery, 126

ko Creek, 51
River, 52.
ly Average Coin in Banks, 717
onsumption of Breadstuffs, 282
d of Oats, 293-4

Yield of Alluvium, 78
  of Barley, 298
  of Grain in New South Wales, 299
  of Maize, 289, 291
  of Potatoes, 301
  of Quartz, 79
  of Sugar-cane, 305
  of Wheat, in Bushels, 278
  of Wheat per acre, 274

Zymotic Diseases, 469, 471

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